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ABSTRACT

The report describes accomplishments of a project for training personnel involved in occupational education for handicapped students in 2-year colleges. The inservice training was intended for vocational educators, career/academic/personal counselors, job placement officers, and coordinators for special services for disabled students. Training focused on three major areas (vocational instruction, administration, and interprofessional cooperation) and was implemented via career/vocational teams. Teams from 17 2-year colleges attended 9 workshops at 3 all-day conferences which included joint meetings of college staff and training personnel and line supervisors from industry. A general theme of modifying the attitudinal climate of the college was addressed in all three conferences which separately focused on occupational training of students with learning disabilities, visual and hearing impairments, and orthopedic impairments and hidden disabilities. Each of the three conferences is described and presentations summarized. Appended material includes listings of conference participants, agendas, and materials distributed at the conferences. (CL)

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ACCOMMODATING HANDICAPPED STUDENTS
IN OCCUPATIONAL PROGRAMS:
INSTRUCTIONAL STRATEGIES FOR
TWO-YEAR COLLEGE STAFF

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FOREWORD

Over the many years of IRDOE's involvement in activities on behalf of the disabled one circumstance seemed always to come to the fore: the feelings of discomfiture held by practitioners in the field of education who had little or no formal training in serving that population. Despite the best of intentions and good will, teachers in the various occupational education disciplines were often inclined to feel ill-at-ease in working with handicapped students who characteristically had not been encouraged to engage in vocational programs.

Even with our successes in involving both teachers and educational support personnel in our projects, it was apparent that more was needed than peripheral attention to alleviating feelings of inadequacy regarding training and experience. We elected, therefore, to propose a project to the Bureau of Grants Administration which would expand and refine college staff competencies in responding to the needs of students with handicapping conditions and which would also provide them with realistic strategies for use in the classroom.

This report describes those efforts, and the nature of activities which could be built upon the strategies introduced including: the use of new technologies and equipment available and how minor modification of programs and instructional materials can accommodate those with reading and/or writing difficulties. Additionally, evidence of the impact of ancillary activities on the educational process was provided (e.g., the effect of an ongoing support group comprised of learning disabled students on the learning process). No small matter, either, was the involvement of the participants in pre-meeting preparations which, for example, voiced questions and concerns that they had, and which facilitated later discussions with others in similar situations.

We acknowledge that the project, while more than a "beginning," is a stepping stone to additional work in the development of strategies to serve this heretofore disenfranchised population. Periodic introduction of current and valid methods, materials, and equipment is essential to meeting the needs of teachers who reach out to the handicapped. The Institute welcomes comments and suggestions from readers, and commits itself to further activities which can benefit both staff members and the students they serve.

Lee Cohen, Ph.D.
Director,
Institute for Research and Development
in Occupational Education

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To the many people who contributed to project activities we offer appreciation for the time, energy and support given. We are especially grateful to Mike Van Ryn, Assistant Commissioner for Higher Education Services, and Larry Gray, Bureau of Grants Administration, New York State Education Department, for supporting a program that will enrich the lives of disabled students on community college campuses.

Anyone who has ever coordinated a meeting, chaired a committee, or conducted a workshop knows that success is dependent upon the cooperation of others. We are indebted to all who participated in our series of conferences--the workshop leaders and speakers, student personnel and special services staff, instructors and administrators, and industry personnel.

Special thanks are given to the CUNY Committee for the Disabled who, as in all of our previous program efforts, have responded generously with their time, ideas and support.

Finally, to Melanie Bentley, who provided overall administrative assistance to the project, and to Eileen Connelly, who did much of the word processing and duplicating, we offer our thanks.

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FINAL REPORT

Accommodating Handicapped Students In Occupational Programs: Instructional Strategies For Two Year College Staff

Background

The overall purpose of this project was to address the occupational needs of handicapped students as they relate to career development and vocational education. Instructors in occupational programs, coordinators of programs for handicapped students and related support personnel (e.g. counseling and job placement staffs) were to be trained in a variety of instructional strategies in occupational education for handicapped students.

This inservice training built upon previous training documents and staff development activities developed by the Center for Advanced Study in Education, Institute for Research and Development in Occupational Education, over the past ten years including:

Community College Support Service and Activity Program for the Disabled Students

Implementation of Strategies for the Handicapped

College and Industry: Partners in the Handicapped Employment Role

Career Counseling and Job Placement of Disabled Students at Two-year Colleges: A Guide

Enhancing Interpersonal Skills: A Workbook for Disabled College Students.

Outcomes of these endeavors served as a basis for this inservice education program. We capitalized upon these previous efforts because:

- o almost all the community colleges having a substantial number of disabled students have either participated in our training programs and/or contributed to the development of the guides and therefore have and maintain an ongoing sense of involvement and ownership in career development projects for handicapped students;

- o training programs provide a forum for identifying areas where further staff development activity is needed;
- o implementation of training guides provides direct observation and feedback on strengths and limitations of services provided to handicapped students. By identifying these areas of weakness, training programs can be implemented to focus directly on satisfying these unmet needs.

Project Need

An ever increasing number of disabled individuals are entering two-year postsecondary institutions as a result of the steady increase of handicapped students attending public schools in New York City. A Fall, 1983 survey conducted by the CUNY Committee on the Handicapped indicated that there were 2,177 disabled students on CUNY campuses and 16,000 special education students on the high school level. New York City Board of Education officials have estimated that the high school handicapped population will increase approximately 5% per year for the next several years and will reach 19,000 before leveling off.

The overwhelming number of these special education students attend academic/comprehensive high schools where opportunities for occupational training are limited. Other than career programs in business and related areas, few academic/comprehensive high schools have the resources to provide an appropriate sequence of occupational courses. Most of these schools lack a comprehensive occupational exploratory program or vocational programs leading to the development of an occupational competence. Consequently, for those handicapped students who meet the admission requirements for entering CUNY or SUNY, the community college is often viewed by parents and students as a promising avenue for developing vocational skills that will enable a disabled individual to secure employment and economic independence.

Career and Vocational Services Needed -- a Summary of the Institute's Findings.

With the promulgation of "504" federal regulations, postsecondary educational institutions have been alerted to their responsibilities under the law vis-a-vis academically qualified handicapped students. Within the last decade, a concerted effort was begun by two-year colleges, especially in areas having large numbers of handicapped students, to respond more effectively to the needs of disabled people in the community. The response pattern by colleges usually focused on: 1) outreach, identification, and recruitment of disabled students in the community; 2) organization of a support service delivery structure; and 3) provision of job development and job placement services for disabled students.

Programmatic efforts at two-year colleges toward satisfying the educational and vocational needs of disabled two-year college students have characteristics similar to those used with other disadvantaged groups. For example, there is need for steady, continuous support; a need to acknowledge that change in the immediate and/or larger environment has impact on the growth process and that the disabled, like the non-disabled, in order to become self-sustaining and autonomous, often require individualized attention and/or modification in their skills training. Finally, once disabled persons have developed these skills, they need to secure employment.

In general, meeting career development, vocational education, and job placement needs of disabled students remains a major problem on two-year college campuses. For example, coordinators of special services for disabled students have voiced concerns as to how they can best provide occupational training for an increasing number of disabled students with varying physical or sensory impairments. In addition, many of these students are marginal in terms of academic performance and work history.

When there were a small number of disabled students on any one campus, student personnel professionals could resolve issues through a case-by-case process with heavy reliance on one or two knowledgeable and caring vocational instructors who could be found somewhere on campus. Such an ad hoc approach to occupational training and support services is ineffective and wasteful of effort and money.

With the increased number of disabled students now on campus, it is inappropriate to suggest that they be directed to enroll in only those programs where a sympathetic and knowledgeable instructor is available. From a single perspective, this may seem reasonable; but, if one is to take into account students' vocational interests and abilities, then the entire range of occupational training programs should be available. Consequently, all occupational instructors have a need and a responsibility to learn how to modify and adapt their program to the needs of disabled students.

The pace of development and implementation of career training programs for disabled students on two-year campuses has been slowed by on-campus conditions such as the following:

- relatively few student personnel staffs have experience and/or skills for infusing their campuses with instructional strategies and materials for students who are sensory impaired or learning disabled;
- occupational instructors tend to be uninterested, show anxiety and are often unfamiliar with curriculum modification and teaching strategies for handicapped students. Attitude modification is still a strong priority;
- there are few opportunities for staff at two-year colleges to exchange ideas, operational formats, and materials regarding occupational programming for disabled students;
- under present fiscal constraints, few two-year colleges can employ full-time career development specialists to provide leadership for vocational instructors and other college personnel.

To help students advance educationally and vocationally through two-year institutions and proceed to the world of work, vocational instructors must be able to deal with a host of currently unresolved problems that reside with colleagues, students and industry personnel.

Upgrading and increasing the capacities of the community colleges to provide instructional accommodation for handicapped students requires recognition of the process needed to create change. Therefore, in carrying out this project, the intention of IRDOE staff has been to increase "in-house" capabilities among two-year colleges by responding to expressed needs voiced by vocational staff, coordinators of special services, and disabled students. These needs have been explicitly identified by IRDOE staff while participating in meetings conducted by the CUNY Committee for the Disabled and during the development of "A Guide for Career Counseling and Job Placement of Handicapped Students in Two-Year Colleges," and "Enhancing Interpersonal Skills: A Workbook for Disabled College Students." Both guides have been disseminated to community college campuses throughout New York state. Reactions to these guides, which were developed by IRDOE with State Education Department support, indicated that college personnel need and want assistance in operationalizing instructional practices for all kinds of disabled students in order to upgrade occupational programs on their campuses. For example, IRDOE staff, in conducting a range of staff and curriculum development activities in the past decade have become aware of the discrepancy of impact that coordinators of handicapped services have made on colleagues in student personnel offices when compared to personnel in instructional areas. While many career/academic counselors are aware of major career-related issues concerning the counseling of handicapped students, instructional staff, especially those in

occupational programs, often lack information regarding accommodations and modifications. For example, instructional staff need to know how accessing information via computers can be an effective means of ameliorating the effects of being visually impaired. Since visually impaired students must rely heavily on non-visual channels to acquire much of their information, it is most important that occupational instructors be made aware that there are fully developed models currently being implemented that demonstrate the use of the computer as an instructional aid for disabled individuals.

To assist instructional staff in modifying and/or adapting curricula, materials, equipment and teaching methods for their disabled students, one needs to face, at the outset, the issue of attitude modification. A recent survey of members of the CUNY Committee for the Disabled by Elliot Rosman, former Chairperson, revealed that attitude change among college staff was still a major concern. The survey indicated that efforts to modify attitudes through such activity as conducting the standard "awareness day" were, for the most part, inadequate and only a beginning means of remedying problems concerning staff reluctance to having disabled students in their classes. The CUNY Committee suggested that college staff -- in terms of modifying attitudes -- are susceptible to varying kinds influences, e.g. where most of the tension is generated by ignorance, simply educating an individual may be the most effective way to help. It was our expectation that a staff development program, focused mainly on instructional personnel, would provide college staff with an array of practical and effective interventions for teaching students with disabilities. By filling in knowledge gaps it was anticipated that appropriate attitude and behavioral change will ensue, thus ensuring a more productive teaching-learning environment in college classrooms.

The CUNY Committee for the Disabled perceived the proposed inservice training project, in addition to facilitating instructional accommodation, as an effective means for achieving several outcomes:

- o to develop a cadre of trained personnel, especially occupational instructors, who can infuse career and vocational development activities throughout occupational programs;
- o to guide implementation activities regarding Section 504 regulations;
- o to develop ways to increase college-industry collaboration in training and hiring handicapped students;
- o to increase the employment of disabled students.

Target Population

The target population for this inservice training program included individuals holding the following titles: vocational educator, career/academic/personal counselor, job placement officer, and coordinator for special services for disabled students. Although it was anticipated that three to four individuals from 10 to 13 CUNY and SUNY community college campuses in the New York Metropolitan area would participate in the program, in fact we involved 81 community college instructors and support staff representing 17 CUNY and SUNY community colleges.

The personnel who were prepared in this project were selected out of the recognition that: 1) the career development process is more than only vocational training, but rather a continuous process with a focus on the future, including the individuals' total life span; and 2) there is need for collaboration among and between vocational education instructors, the college placement office, the handicapped student office, student personnel staff, students, academic college staff, employers, and community agencies.

The occupational training departments, student personnel office, and job placement office on community college campuses are perceived as natural homes for effective career and vocational development services in view of the expertise and resources which exist within their offices and departments. These include the areas of vocational education; career counseling and career exploration; assessment of student aptitudes, abilities, and interests; development of job-seeking, job entry, and job-keeping skills; and extensive and intensive contact with employers. However, to provide services that respond to the special needs of disabled students, college staffs within these departments need to expand their roles and develop or have access to specialized information regarding new and emerging instructional strategies for disabled individuals. Since support personnel are frequently advocates for disabled students and advise them regarding occupational options, it is vital that they remain up-to-date regarding instructional strategies for disabled individuals. Similarly, vocational instructors need to understand the entire circumstances surrounding the movement of disabled individuals onto community colleges and the types of support services they receive.

In summary, the project targeted its activities to personnel in the following areas:

1. Vocational Instruction

- to assist vocational teachers in modifying their vocational programs for disabled students.
- to assist career counselors in helping students select programs and work with instructors as they modify vocational programs.

2. Administration

- to assist chairpersons of occupational programs, deans of instruction and others in providing supervision and administrative support for instructors of occupational subjects.

- to assist administrators in providing the appropriate models of service delivery to meet the needs of their particular occupational areas.
- 3. Interprofessional Cooperation
 - to assist staff in student personnel as they work with students in developing an occupational program for them to follow.

Project Goals and Objectives

The ultimate outcomes intended to result from this project are the enhancement of the career development opportunities and employment potential of handicapped two-year college students through the incorporation of practices presented in Guides prepared by IRDOE and "state-of-the-art" materials and teaching strategies developed by industry personnel and those representing a wide-range of community agencies who are engaged in the vocational training of handicapped individuals. The immediate goals are:

- a) to modify the attitudes of occupational instructors and support service staff regarding the vocational potential of handicapped individuals;
- b) to transmit knowledge, information, and skills to occupational educators concerning teaching strategies, curriculum modification and equipment adaptation for students who have sensory impairments, are learning disabled or have a physical disability;
- c) to increase the knowledge and skills of vocational instructors as it relates to the assessment of educational achievement, vocational interests and abilities, and interpersonal competencies;
- d) to increase the knowledge and skills of community college personnel in interacting with employers for the purpose of acquiring state-of-the art training and employment practices.
- e) to conduct a model inservice training program in the downstate region which can be replicated in other regions of New York State.

Specific methods included:

- 1. Organizing three-four person career/vocational teams at CUNY and SUNY two-year colleges in the greater metropolitan area. For specific

conferences, additional personnel attended. Team members hold job titles such as: vocational instructor, academic, personal or career counselor; coordinator of special services for disabled students; job placement director. From past experience in conducting staff development programs, we found the four-person team an effective mode for entry into our key areas vis-a-vis the needs of disabled students.

2. Training each team on how to enhance vocational training and integrate career counseling and job development and placement activities for disabled students. The objectives of the training program were to include providing personnel with:

- o information about and implications of pertinent federal and state legislation (particularly for instructional accommodation) and the most recent judicial decisions applying to disabled students;
- o help in recognizing and integrating their feelings about handicapped students;
- o strategies for modifying the attitudinal climate in occupational areas;
- o information about handicapping conditions, e.g., sensory impairments, learning disability, and their implications for vocational assessment, programming, curriculum and equipment modification, and methods of instruction;
- o strategies for enriching the information environment for visually impaired individuals through computers and the implications for other disabilities;
- o community agencies' role in providing models for making modifications and accommodations in vocational training;
- o strategies for improving articulation between high schools and two-year colleges that focus on enhancing the readiness of special education students entering vocational programs;
- o strategies for enhancing college-industry articulation for maximizing employment of disabled students.

3. Providing a forum through which vocational/career teams could have direct contact with trainers and line supervisors from industry and personnel from community agencies and organizations involved in training disabled people. The forum aimed at assisting participants to acquire and exchange specific information about policies, training practices, and attitudes toward the training and employment of disabled individuals.

Project Design and Activities

Overview. Seventeen two-year colleges in the New York metropolitan region (see appendix) had teams attend nine workshops conducted at three all-day conferences during the academic year. These workshops were developed around topics, skills, and information needed to provide occupational training and related services for disabled students on two-year college campuses.

The workshops included college staff and training personnel and line supervisors from industry meeting jointly. These joint workshops with industry involved an exchange of information relating to industry, training models for handicapped individuals, modification of equipment, materials and job requirements at the work-site.

In addition, some members of the career/vocational teams have spread the effect of their training at workshops to their "home" campuses. For example, Hostos Community College held faculty meetings to disseminate information and materials acquired at the conferences and consulted further with some of the conference presenters. To assist other teams in accomplishing this endeavor, project staff worked with the CUNY Committee for the Disabled and provided technical support and consultation when requested.

Project Activities--Workshops for College Staff. The nine workshops for college personnel were conducted around the following themes and topics (Keyed to goals a-e and objectives 1-3, pages 9-10).

1. Theme: Occupational Training of Learning Disabled Students

Topics:

- o characteristics of learning disability;
- o assessment strategies for occupational instructors;
- o informal ways of identifying learning modes: visual, auditory and kinesthetic;
- o modification of vocational curricula to help LD students compensate for their learning disability;
- o strategies for modifying teaching techniques and materials (listening aids, hearing aids, speaking aids, writing aids);
- o alternate testing procedures;
- o examples of positive vocational training experiences with learning disabled students.

2. Theme: Occupational Training of Students with Visual and Hearing Impairments

Topics:

- o general descriptions of visual and hearing impairments;
- o barriers facing the visually and hearing impaired;
- o general strategies, interactions for occupational teachers working with visually and hearing impaired students, e.g., orientation and mobility skills; effective listening skills; typing, braille reading and writing skills; maximizing residual vision skills of partially sighted students; methods for reinforcing learning through visual cues;
- o specific techniques for instructing students who have little or no vision and those who are hearing impaired, such as working with an interpreter;
- o new technology: enriching the information environment for the visually or hearing impaired through computers and other technology;

- o successful programs: business and distributive education, business and office programs, computer science and data processing, trades and industry, health occupations and allied health programs;
 - o community resources that provide occupational training to visually or hearing impaired persons;
 - o examples of positive vocational training experiences with visually or hearing impaired students.
3. Theme: Occupational Training of Students with Orthopedic Impairments and Hidden Disabilities: What Has Been Done: Can Be Done, Should Be Done.

Topics:

- o overview of physical impairments and classroom considerations;
- o modifications in vocational areas, e.g., business programs, trade and industry programs;
- o successful curricula modifications;
- o touch typing for the physically impaired;
- o providing vocational training through linkages with community agencies;
- o examples of positive vocational training experiences with orthopedically handicapped students and students who have hidden disabilities.

The general theme, "Modifying the Attitudinal Climate of the College"

permeated all workshops, and included such topics as:

- o Section 503 and 504 and the implications for vocational education instruction and accommodation;
- o identifying sources of attitudes that people hold towards disabled people;
- o influences that help to modify attitudes;
- o continuum of experiences and activities that assist in producing attitudinal change;
- o development of self-advocacy and coping capabilities.

Project Activities -- Industry Personnel

The workshop design for college and industry personnel meeting together included teams from industry comprised of a personnel representative or EEO officer and a line supervisor and/or trainer from a corporation, or an employed disabled person. This demonstrated to college teams, e.g., coordinators for handicapped services and occupational instructors, how a business organization deals with the entire range of employment and training activities vis-a-vis handicapped workers. Thus, the industry teams were able to offer strategies in such areas as: making accommodations and adaptations in training and the job site, recruitment, interviewing, and modifying job requirements. From the presentations by industry teams, college personnel had an opportunity to identify successful ways of working with handicapped populations that are appropriate, with certain adaptations, for occupational programs on campus. The following industries and occupational programs were represented: market research for the food industry; home based employment in the energy/public utilities industry; and computer science/data processing. (Keyed to goal c page 9.)

Selection and Contact of Industry Representatives. Directors of training, line supervisors, personnel staff and disabled industry employees made up the bulk of industry participants at this series of workshops. Such well-known companies and institutions as General Foods, IBM and the New York Power Authority attended.

Industry groups were chosen and invited primarily on the basis of numbers of disabled students in related occupational programs at the colleges. Also considered was the quality of training programs and line supervision offered by an industry and/or specific corporation.

Industry Workshop Topics and Agendas. Industry workshops were structured to provide up-to-date information about industry training programs including: modification and adaption of equipment, materials and job requirements that enhance the employability potential of disabled individuals. Through a direct exchange of information in these areas and other areas of mutual concern such as developing occupational assessment and teaching strategies, ways of overcoming attitudinal roadblocks, and providing services that are in line with legal requirements, college staff became aware of approaches and methods that have the potential for being incorporated within training programs on campus.

In addition, the workshops were designed to promote an examination of the point of view of each group (disabled students, college staff and employers) in relation to: being disabled and achieving in an occupational training program, developing and placing students in jobs, and hiring community college graduates who are disabled. Toward these ends, each of the industry workshops consisted of individual presentations by industry personnel and disabled employees and problem solving by participants.

In addition to an emphasis on training and instruction in industry for disabled individuals, additional topics that were covered in large group sessions by each industry group included the following:

- o Services or products offered by the industry.
- o Major categories within each segment of the industry.
- o Job market trends within the industry; labor needs, both current and the next three to five years.
- o Personnel practices related to recruitment and assessment.
- o Corporate policies that have affected employment of disabled individuals.

As part of skill development in relation to occupational training, the community college representatives were asked to give overviews of their college programs since some employer representatives were learning about programs for the disabled for the first time, and were learning about the kind of "product" the community college has to offer in general.

Selection and Contact of Student Representatives. The project staff invited disabled students from community colleges to participate in the joint college/industry workshops. Based on the project's prior experience in conducting workshops with college and business representatives, the presence of disabled individuals adds a critical dimension to what might otherwise be an academic and abstract discussion. Students presented their own points of view in all discussions.

Multiplier Activities. The career/vocational teams were encouraged to transmit information and skills acquired at workshops to their respective departments or administrative units at regular meetings, e.g., departmental or curriculum planning, and at meetings specifically called for this purpose. In addition, each team member was asked to serve as an advocate within his/her own department for developing activities that would expand vocational and career offerings currently available to disabled students. Team members worked with colleagues in their respective vocational departments, in the student personnel services department, with cooperative education and work-study coordinators, and job placement personnel, toward upgrading the responses they make to special needs students.

Advisory Committee. An informal advisory committee to the project was formed that included business representatives at the management level, occupational instructors, administrators of student personnel departments at colleges represented at workshops, and disabled community college students.

The advisory committee acted as a critic of proposed agendas for conferences, as reflectors of concerns of their own constituencies, as sources of encouragement in the undertaking of activities within the proposed program, and as an influential force in ensuring industry, community college, and student representation at the proposed conferences, and as providers of feedback so that programs could be adjusted as new concerns originated.

Members of college student personnel staffs who were particularly active in past IRDOE programs on the handicapped were surveyed regarding the day-to-day concerns and needs of college personnel and handicapped students. The project team participates as members of the University Committee for the Disabled, which represents the services for disabled students at all nineteen units of CUNY. Participation on this committee helped identify additional priorities regarding program plans and provided a forum for the advertisement of the proposed project to all two-year colleges in the metropolitan region. In addition, the University Committee recommended students to serve on the informal advisory committee.

Following an article in "Information from HEATH" regarding the conferences and concept of establishing "partnerships" on campuses, many requests were received from colleges throughout the country as well as one from Barcelona, Spain, requesting information about the process we used to recruit faculty. Following is a description of the series of steps we engaged in which were designed to encourage faculty participation.

- Step 1. Early in the semester we were permitted to distribute, at a meeting of the CUNY Committee for the Disabled, a written outline of the conference format, dates to be held and conference goals. At that meeting coordinators were asked to begin to think about faculty they would like to invite with whom they would like to network more closely.

Step 2. Letters describing the project and requesting support were sent to: The University Dean of Academic Affairs at individual colleges, and the Directors of Student Personnel Services at each CUNY and SUNY college.

Step 3. Letters were then sent to the Counselor-Coordinator of Disabled Student Services on each campus requesting the names of four to five faculty members who were known to have a disabled student in his/her class. By targeting towards their felt needs and interests, we believed that these instructors would be more amenable to attending the conference (they were invited to attend all or any of their choosing).

Counselor/Coordinators were overwhelmingly supportive of the project. Some gave us names of many more faculty members than then four to five requested. Some asked that we invite the chairperson of every department. Some provided names of different faculty for each conference (such as development skills faculty for the learning disability conference, computer faculty for sessions on technology). Invitations to attend the conference were then sent to the suggested faculty members.

We believe that relating the needs, interest and experiences of the instructor to the disability that was being addressed at each conference contributed greatly to our success in achieving faculty participation. Thus an instructor who had a hearing or visually impaired student in his/her class was more likely to attend the conference dealing with sensory impairments; those dealing with learning disabled students (e.g., basic skills faculty) were more likely to attend the conference on "Accommodating Learning Disabled Students."

The invitations asked for a phone-in RSVP by a certain date. Those instructors who had not responded by that date were called personally providing an opportunity to explain further how they might benefit from attending and/or to invite them to a future conference we believe this intensive "wooing" contributed to the unusually high attendance.

At the conference on Learning Disabilities a follow-up hands-on "WordStar" workshop was offered to participants at which they would have an opportunity to use

the computer themselves. Dr. Estelle Schneider, Dr. Brian Gallagher, and counselor Karen Pearl donated a morning of their vacation time during intersession at LaGuardia Community College to conduct the training. (Intersession was the only time the microcomputer laboratory would be available.)

Fourteen counselors and faculty availed themselves of the opportunity to receive "A Basic Introduction to the WordStar Word Processing System" as well as information about its applications to learning disabled students. As of this writing, to our knowledge at least one Community College (Nassau) has written a proposal to replicate the LaGuardia writing project for learning disabled students in their developmental skills department. An excellent manual "Microcomputers and Word Processing Programs — An Evaluation and Critique" (March 1985) authored by Dr. Brian Gallagher was distributed to participants at the workshop. This manual describes Dr. Gallagher's experience with learning disabled students and faculty while implementing the word processing writing program at LaGuardia and also evaluates numerous software writing programs. It may be order from Dr. Virginia Slaughter, Instructional Resource Center, Office of Academic Affairs, City University of New York, 535 East 80th Street, New York, N.Y. 10021.

FIRST CONFERENCE

Accommodating Learning Disabled Students In Occupational Programs: Instructional Strategies For College Staff Friday — November 30, 1984

New OVR Regulations on Learning Disabilities

Presenter: Dr. Richard Hehir, Director of Special Projects, Office of Vocational Rehabilitation (OVR), Albany, New York

Dr. Hehir explained that defining "learning disability" has always been a problem and that the definition developed by the Federal office was not and is still not totally adequate. In New York State it is estimated that 50% of the school population may be learning disabled. He emphasized to the audience that employment is the prime objective of vocational rehabilitation and that helping an individual to obtain a college education is only a part of the agency's service delivery system.

OVR is working closely with public and private school systems, which represent a referral source. Counselors are brought into the school, usually in a student's senior year, and sometimes, as early as age 14. By starting early, the OVR counselor can be involved in the Individualized Education Plan (IEP) process, thus providing a continuity of services from education into rehabilitation for appropriate clients.

The IEP, which has a component that talks about vocational evaluation/vocational services, is seen as a logical place for OVR counselors to become involved, as that section corresponds closely to the Individualized Written Rehabilitation Plan (IWRP), the rehabilitation plan developed by the client and counselor for services through OVR.

A problem exists, however, in that a distinction must be made between what the Committee on the Handicapped (COH) defines as a learning disability for educational services and what rehabilitation counselors will accept as a learning disability for rehabilitation services. Learning disability as a diagnosis was only recognized in 1980 when the World Health Organization and the American Psychiatric Association defined learning disability as a medical disability. Rehabilitation is medically, not educationally, oriented, and depends heavily on medical diagnoses. In 1982, in New York State, OVR developed the guidelines that would recognize learning disability as an eligible classification for clients to be served through the rehabilitation system. In New York State, prior to 1982, to serve learning disabled clients they had to be defined as "neurologically impaired/brain injured" and it was required that doctors certify that there were hard signs of a learning disability, as opposed to the soft signs commonly used by school districts. After 1982 a psychologist as well as a physician was permitted to certify a person as being learning disabled. OVR maintains a panel of licensed psychologists who have been trained in neuropsychological assessments. A "functional limitation" as a result of the handicap that prevents the person from getting a job must be present for persons to get OVR sponsorship for education. Evaluation and counseling, however, are no-cost services available to all. All decisions are made on an individual basis.

Dr. Hehir clarified that a diagnosis of "learning disability" is different than "having problems in learning" and that there can be a difference of opinion among professionals. Therefore, there is an appeal process or mediation process in which differences of opinion can be adjudicated. The Client Assistance Project, an ombudsman service that operates through the Independent Living Centers, is

available to anyone. There is an economic need criteria now to qualify for OVR aid and some services such as tutors or readers have a cap.

In response to questions from participants, Dr. Hehir explained that:

- o To establish eligibility for services, a learning disabled student who wants to go to college should ask his/her guidance counselor to contact the OVR office in his district, or go directly to the liaison counselor in school if the school has one.
- o Tutoring services can be provided through the I.W.R.P. An individual determination is made, however, as to the number of hours of tutoring that can be provided.

Dr. Hehir expressed a need for close cooperation between OVR counselors, secondary schools staff and university support staff.

Using Technology with Learning Disabled College Students

Presenters: Estelle Schneider, Assistant Professor, Department of Communication Skills, LaGuardia Community College
Karen Pearl, Learning Disabilities Counselor, LaGuardia Community College
Colette Wagner, Librarian, LaGuardia Community College and Judy O'Conner, student.
Mary Harrington, Kurzweil Computer Corporation

Estelle Schneider defined learning disability as it appeared in the 1977 Federal Register as follows:

"It's a disorder in one or more of the basic psychological processes -- spoken or written -- which may manifest in an imperfect ability to listen, to speak, to read, to think, write, spell or to do mathematical calculations. The term includes such conditions as perceptual handicap, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. The term does not include children with learning problems which are a result of visual, hearing or motor handicaps, or mental retardation or of environmental or cultural or economic disadvantage."

Schneider explained that the definition of learning disability is in constant flux. She said that research has established that one to three percent of the college population in the U.S. is learning disabled. LaGuardia Community College estimates that five percent of its population is learning disabled.

Adolescents with specific language disability have difficulty with one or more of the language arts -- listening, speaking, writing and reading as well as with handwriting or composition. Difficulties occur despite intact senses, intelligence, conventional instruction and normal motivation.

Symptoms of a learning disability may include perseveration may include social attitudes that are immature. There may or may not be reading problems. Handwriting is significant --often immature, with crossed lines, reversals, omissions, and/or additions. Usually there are also spelling problems.

Other problems may be difficulty in attending, difficulty in focusing and hyperactivity, which becomes difficulty with sitting still. There may be difficulty in oral expression, retrieval of words, proper order of words, eye-hand coordination, problems with holding a pencil, difficulty in slanting the paper, as well as problems in gait, and physical appearance. Some go into a cocoon; others are flagrant about wearing apparel; some have all clothing zipped up with the temperature 90%. Because there are all sorts of manifestations, it's difficult to say learning disability is one thing.

Some classroom adaptations which were recommended to faculty for those students with auditory/perceptual difficulties are: permit lectures to be taped, use visuals where possible, summarize key points in introduction of lecture, teach new words in advance, train student in notetaking skills, identify main point, do summary at end, and use association techniques to aid memory.

LaGuardia Community College uses a microcomputer word processor and Kurzweil reading machine as adaptive devices for students with multiple failures and who are learning disabled in writing.

Karen Pearl talked about what they do for learning disabled students at LaGuardia. Students who were identified as learning disabled in high school usually come to Karen to find out if LaGuardia is the right school for them. Those not identified are usually referred by faculty, often from the developmental skills department. To diagnose the presence of a learning disability Schneider and Pearl

administer a battery of tests, including an IQ test, visual and auditory memory test and visual discrimination test. The purpose is to be able to structure the environment so the student can be successful. Counseling is often recommended after testing to help learning disabled students learn how to ask for classroom modifications, how to deal with faculty members, and how to tell them about having a learning disability. Students can request that they be allowed to tape lectures, have extended time for test taking, and to have a reader if needed. They can also be trained to use the Kurzweil reading machine which helps students who have reading difficulties. To help with writing problems they can learn to use a microcomputer. Under a new grant LaGuardia can offer three hours of content tutoring in post basic skills subjects.

Mary Harrington of the Kurzweil Computer Corp. reported that about 500 Kurzweil Reading Machines (KRM) are currently in use and it is now available in five languages in addition to English. The KRM is a computer that reads printed or typed material out loud with synthetic speech through optical character recognition. The rate of speech and pitch can be adjusted, speeded up or slowed down and information can be reviewed. Every word is not always pronounced accurately. For a dyslexic person, a book can be read by machine while the person follows along, so that it acts as a reinforcing mechanism. Keys are not visually identified as the machine was originally developed for visually impaired persons. Familiarization with the speech output takes place quite rapidly. People of all ages are able to use the machine which requires about 10 hours of training. The Kurzweil is usually located where there are multiple users; e.g. school libraries or rehabilitation agencies. It is possible to tape record directly from the machine and interface with other types of computer equipment, as well as do print-to-Braille conversion. The

KRM may be used when recorded textbooks are not available. More research on its use with learning disabled students is needed.

Colette Wagner indicated that as a librarian she made the assumption that the KRM training program for the blind was adaptable for use with learning disabled students. She has now trained three learning disabled students on the KRM and has modified the program each time. To provide a quick reward, she teaches only the part a student needs immediately and then builds gradually, usually giving about 15 hours of training. The student's use of the KRM must be monitored constantly to be sure the student is using it effectively. She advised that the textbook that the student is using be used as a teaching tool so that the student can easily relate to the instruction; and to use the same reading assignments for testing and instruction that the student has been assigned.

Wagner identified the following positives aspects of using the KRM with learning disabled students:

- o Useful for students whose best skills are listening ones;
- o Useful as a reinforcement -- student reads text at same time as machine;
- o The library is recognized as a resource by the learning disabled student;
- o Spelling skills improve when using the spelling key;
- o The KRM is best used as an aid for a learning disabled student, not as a primary tool;
- o Use of the KRM strengthens listening comprehension.

Some negative aspects are:

- o Because it is located in the library and not integrated into the classroom, the student must be motivated to use it on his/her own;
- o The student must give up a good deal of time to learn the machine -- 15 hours -- often from an otherwise busy schedule;

- o The trainer (librarian) must invest a large amount of time in training a student; preparation and followup is too great when the KRM is only a minor part of one's responsibilities;
- o The student needs immediate rewards and must be tracked;
- o English As a Second Language (ESL) students may learn wrong pronunciation of some words.

Julie, the student from LaGuardia who spoke, said she went from R's (Repeat grade) to A's in English after taking the microcomputer course. She also received an award for writing and is taking an elective English literature course on the computer. Julie felt the major advantages were: small classes with individualized attention and the fact that you could go over and over a sentence using the spell checker software. She said that she felt the WordStar program was easy to learn. She commented that the word processor was non-judgmental, and permits revising without the stress of having to rewrite. Also, the screen holds your attention and helps you focus in on the work rather than noticing everything else that is happening around you.

Note: A follow-up hands-on workshop on using WordStar was held on March 19 at LaGuardia Community College. A description of the session follows the conclusion of this section.

Issues and Strategies for Modifying Programs, Curriculum and Materials for Learning Disabled College Students

Presenters: Helen Gerardi, CUNY Office of Academic Affairs
Stanley Steiner, Associate Professor, Department of Dental Hygiene, New York City Technical College

Gerardi presented the general concerns of faculty and administrators regarding disabled students.

Steiner said that when he knows a student is learning disabled he works with the student to assist him/her in mastering a variety of techniques. He has them build a "new word" dictionary and helps them break down words and chapters. He offered the following teaching techniques (which others pointed out are really good teaching techniques that all teachers should use but generally don't) and tips for students:

- o Break things down into manageable segments, words, sentences, etc.
- o Say new words out loud; write them out.
- o Erase material on the board already used; keep boards as clear as possible for focusing in.
- o Use colored chalks especially with diagrams and use the same colors to show connections.
- o Ask a lot of questions.
- o Outline the textbook.
- o Get the main idea, then list supporting points.
- o Try to figure out what the test questions will be; students are generally 50% correct.
- o Write down new words, look up their meaning, develop a "new word" dictionary.
- o Have a friend make a copy of his/her notes if you're absent.
- o Study with a friend who takes good notes.

- o Sit up front
- o If you wear glasses have them checked regularly; keep them clean.
- o Write and say a word as you study; use tracings (Orton)
- o Use top 2/3 of the page for notes. Use the bottom to rewrite or fill-in from the text.
- o Write on only one side of the paper.
- o Divide the paper into segments as a study aid

dates	names
event	places
- o Use symbols with charts.
- o Read the title of the textbook, make sure that you understand what the topic is.
- o Underline headings in the table of contents. Italicized words are important; underline them and put in "new words" dictionary.

Steinerman stressed that although all good teaching includes these techniques, a learning disabled student must be shown how to underline. It is not a difference in quality but in quantity. The teacher has to do more and tap more senses -- the visual as well as the auditory and oral.

Gerardi pointed out that college professors might rely too heavily on a lecture approach as there is a natural tendency to continue to teach in familiar ways. She stressed that administrators need a broad commitment to making learning disabilities a part of the mission of the college and to deal with resistance instructors may have. She expressed the hope that leadership will result from this conference with faculty starting with their own department.

Using A Support Group to Maximize Educational Achievement of Learning Disabled College Students

Presenters: Kate Garnett, Associate Professor, Department of Special Education, Hunter College
Sandra LaPorta, Counselor/Coordinator for Disabled Students, Hunter College

Kate Garnett pointed out that learning disabled students internalize the idea that they should be more perfect than they are and when accused of not trying hard enough, they half-agree because they lack a history of competence to fall back on. When students are told that they aren't trying hard enough, their defenses are often raised and anger is very much under the surface because they know the disparity between that accusation, which they've heard so many times, and the realities for themselves.

Garnett offered three points about "trying" which may be useful to people who are not yet familiar with learning disabilities:

1. There are circumstances where trying, although requiring huge, insistent efforts, is truly worth it. For example, a former member of the support group repeated six courses and closed out his social life in order to spend his eight years getting through undergraduate school.
2. Sometimes effort can be misdirected and it's not how much a student tries, but how. For example, a number of students have great difficulty with basic math. Sometimes one must simply do something else, such as practicing making brownies which involves mathematical operations, i.e., divide, multiply, subtract, check, bring down. That's a way of trying which is different from trying very hard. Another example of a different way of trying is to color code a ruler so the separations between whatever units you want are different colors.

Other simple but often overlooked ways of trying are to take breaks -- five minutes every 45 minutes. Trying does not mean isolation.

3. Sometimes a student needs to recognize that trying isn't going to make a difference at all, as in the case of a student who will always make reversals and omissions and insertions in his writing and that's not going to change. Trying to change that aspect of his writing is not only fruitless, but counterproductive. The student actually has wonderful ideas and could get to be a great writer if he could overcome his sense of failure. That's not true for all students, of course; what's very true for one student may be absolutely wrong for another.

Garnett emphasized that the problems learning disabled students have are very real. One of the greatest pains that comes out in the support group is the degree to which the rest of the world denies that they're real. "Aw c'mon, don't give me that. You can do it. C'mon" This gnaws at the students. Students need very much to hear that their talents and strengths and abilities are equally real.

Garnett suggested that the best way to help a student is to encourage the student to self-reflect, move away their defenses and find what it is they can do and how they can circumvent what they can't do.

Sandra LaPorta, Coordinator of Services for Disabled Students, explained that when she came to Hunter five years ago only two learning disabled students were known to her office. There are now 35 who have identified themselves as well as many who have been diagnosed but have not come forward. There are also students who have not yet been evaluated and don't know what their problem really is about. All of CUNY is experiencing a similar growth. Some of these students come with long histories, some with recent diagnoses and some are just beginning the evaluation process. The support group has been running for two years now and

solidified during its second year with 10-15 involved and committed students attending regularly. They even presented a conference on learning disabilities to Hunter faculty and staff.

This term the group seems to be undergoing a change, LaPorta reported. Only six to seven committed and involved students are coming regularly, making it, in a sense, a new group. LaPorta believes this is happening because:

1. Some key members have graduated and are no longer attending Hunter;
2. Many students work during group hours, and can't come because it interferes with their job.
3. Others have overriding interests because group meetings are held during Deans' hours, at the same time other clubs meet.

LaPorta pondered why some students come to group meetings while others do not. She spoke of the finding of psychologist Jonathan Cohen of Teachers College that a chronic low level depression is present in most learning disabled adults that is unconscious or semi-conscious. This depression results from a long-term defensive posturing against criticism. It takes a lot of energy to be on guard continually, when a person is being teased, ostracized, rejected, and punished. LaPorta reported hearing horror stories about students being locked in closets or slapped by teachers when they couldn't learn fast enough, leaving scars that remain even when the people are adults.

LaPorta compared Elizabeth Kubler-Ross' five stages of mourning to stages a learning disabled student goes through.

The first stage is denial and isolation, -- a kind of running away. LaPorta has heard students say "I heard I had a learning disability, but I don't believe it" -- or "I once had a learning disability but I have no problem now." Problems will almost certainly surface again somewhere in their college life. Students have said,

"Something is different about me, but a learning disability? "Not me - I'm just lazy." Isolation is part of this state of denial. It's a retreat from life -from school, classmates, peers, family. This is an important time because students may drop out if they're really caught in this stage.

Some students say "Yes, I have a learning disability but I don't want anyone to know about it." Shame and embarrassment are common because they are still receiving negative responses from the external world. This is the stage in which we find the supreme defensive posturing where all energies are directed towards this rigid response in defending whatever core they have within.

If someone is stuck in this stage they have great difficulty in identifying themselves to others as a learning disabled person. They might see a counselor once but often disappear, and it's almost impossible for them to go to instructors to have an open dialogue at that point or to join a group.

The second stage of anger is characterized by rage, envy and resentment, and is displaced on to the environment - blaming others for their difficulty. e.g., "The instructor doesn't know how to teach," or "The tutor is not clear enough." Implicit in this stage is "It's not me -it's them, out there." They still might see a counselor - in rage - about their problems, but they can't remain connected. They can't be part of a group because it might mean they would have to give up some of their anger, and they're just not ready to.

The third stage is bargaining, or "Appeasing the Gods." There's a lot of guilt and self blame in it. It goes like this: "If only I'd memorize the entire dictionary, everything will be all right." "If only I read 200 pages a night, I'd increase my reading speed" "If only I worked harder, etc. etc." When one is caught in this private world it is hard to come out and share with others or ask something of someone else.

The fourth stage is depression, which is different than the low level depression mentioned earlier and often is very frightening. The student has to make a decision about continuing or not. If they decide to go on, they begin to come forth, become involved in group or individual counseling, and perhaps work with a learning disabled specialist. LaPorta advised instructors that sometimes a student can approach them more readily than a counselor thus offering an opportunity to solidify a relationship by listening and hearing.

The fifth stage of acceptance is an on-going slow process of coming to terms with and adjusting to the limitations of the disability and equally important, developing, valuing and enhancing their own strengths. Those two must go hand in hand. With this comes a freeing up of energy to develop new compensatory strategies.

These are the five stages which reoccur while students are adjusting and accepting their learning disabilities. The mourning process seems to get reactivated when a person is faced with something new in college, on the job or in their personal lives. Entering college can reactivate the process. Students who seemingly resolved a problem they may have had when in elementary school, suddenly may have that problem again. They will face it again when entering the developmental courses -- the math, the writing -- the bane of their existence. The problem is so huge, so and granitelike that the pain or anger will come out again. It will also be triggered when students enter new academic disciplines such as language, calculus, or computer science, or when they have much reading and they fall behind and don't know how to catch up, or when many papers are due.

A support group can be one of the ways to work through these stages of mourning. It is an ideal setting for partnering and ultimately healing. The

partnering must continue with instructors, peers, and learning disability specialists, who are the people who can help develop those compensatory strategies that they'll need.

The group at Hunter shares information about compensatory strategies. What one student did may help another. They struggle with whether or not to identify, what it means and how it feels to identify. Learning disabilities are invisible--there's no cane, dog, or wheelchair, and the person constantly has to reveal. Students have established a network, and formed friendships and feel better knowing they're not alone.

LaPorta then introduced a panel of learning disabled students who described their experiences.

The first student, Ava, a member of the group since its inception, is a junior at Hunter, majoring in medical laboratory technician. She described her experience of being learning disabled, as follows:

"It's like falling down in a well and going down and down and there's no bottom. You just keep going down. Every morning when you get up it's there and at night when you go to bed it's there. I entered Hunter College in Fall of 1979. On the placement test in writing I didn't write a word. I was afraid that my b's and d's and e's would get all confused so I was placed in a remedial class. The professor knew nothing about learning disabled students. His comment was: "Use a dictionary." How can you use a dictionary if you don't know how the word starts? Then I went to the English Department and they said "You're too lazy. You're just not working hard enough." So I went back to the library. One night I came home and I started beating my head against the bathroom wall. At this point I was almost hysterical. I called a friend of mine, who's a psychiatrist and he introduced me to a learning disability therapist and the conclusion was that I had dyslexia. So I went back to the English Department. If I had dyslexia, I'm entitled to certain rights, "No," I was told, "You have to take the test like everyone else." So I devised a scheme --not really cheating --but compensating. I made seven foolproof essays. You know the English Department is always going to give some current events type of question, i.e., either something to do with child abuse, euthanasia, etc. So I made these essay outlines. I got an A on the test. It only took me about 40 minutes, but I had spent about 55 hours at home, writing these essays over and over until I had them down. The next semester I was so sick I had to stay home.

Fall of 1980 I started again at Hunter. This time I was taking biology, psychology and sociology and Greek and Latin roots. That semester I passed everything with a low average. So I wanted some "A's the next semester. I would study from 4 to 8 a.m., go to class, come home and study till 10 at night. That semester I got an A and three B's. By then I was saying, 'Maybe I can make it.' I stopped beating myself over the head if I failed a test. I took chemistry that summer. 150 students registered for the class -- 15 of us passed. At this point I said 'Hey I'm not really that stupid' and I began working with a therapist who taught me different techniques for compensating. That Fall I mistook a course. I forgot to check what professor was teaching the course. This is the comment I got from a professor. "I'm sorry, Ms. S, is it very painful, does dyslexia really hurt?" Did you hurt your hand, isn't your hand the reason you wanted 15 minutes more on the final?"

This professor still doesn't know much about dyslexia. Then I get the comment, "I don't believe you have dyslexia -- you're so bright. In class you answer all my questions, you speak well -- you do "this" so well, you're great in lab -- how could you do the test backwards in chemistry, how could you just write the formulas backwards. Well I said, if you turn the paper over this way -- it's right. This professor came to terms with me --he gave me a final in his office. I got a B in the course.

Another student, Mary, described her experiences as follows:

My weaknesses are in visual and spatial organization. That means I have trouble orienting my body in space and understanding concepts that require spatial description. It affects me in a lot of different areas -- primarily in math, science, art, music and in nursing skills because there are underlying spatial concepts in the material. E.G., when a teacher writes on a blackboard and it isn't organized directly across, I can't understand it. If the teacher just writes a few words on the board here and there, I can't follow it at all. When I study a chart or a graph it takes a lot of time for me to understand them and I can't understand if someone just flashes something on the board. In chemistry, I can understand the theories, like quantum theory, but I can't do the math that's behind them and I can't visualize the concepts. So, if I'm given a multiple choice test in chemistry, I can get an A, but if I have to do the math, I fail it. In biology, my grades varied from B to F because you have to visualize the material -you have to understand relationships that are visual and then extract and infer from that material. When teachers are very concrete and graphic, I get very lost.

Nursing was a disaster for me because you have to understand how to calculate medication dosages. You have to be able to use your hands to give an injection and I'm not well coordinated with my hands either. You have to be able to judge distances, and read the gauge on a syringe. You have to understand how much solution to mix with how much powder and calculate it to get the right amount -- it was a total disaster. My strong points are my verbal and analytic ability. That means I can read quickly with good comprehension. I can write and spell well and I have a broad vocabulary and excellent memory. I took 18-

19 credits per semester and went to school every summer. I did these two majors in four years as an undergraduate. I did it by reading my textbooks before the semester started and then because I have a good memory, I could discuss the material in class and help other students with it, and still get A's on the final because I could remember things I had read once before. By reading ahead I was able to identify the areas where I was going to have a problem and that would give me time to reason out the difficult concepts, --to go to professors to ask for help or get tutoring from other people. I'm good at writing papers, so when given adequate time I can demonstrate what I have learned through papers. That's why social work is such a good area for me because there's so much reading, writing, and talking and its very analytical. I cannot understand symbols -for me material must be presented in words. In a chart it gets muddled and confused. If there was a chart in a book that I had to read I would have to separate out the different parts, use color to outline it and translate it into words.

A Basic Introduction to Wordstar

Presenters: Brian Gallagher, English Department, LaGuardia Community College
Estelle Schneider, Communications Department, LaGuardia Community College
Karen Pearl, Learning Disabilities Specialist, LaGuardia Community College

In response to numerous requests for a hands-on experience that were received at the November 30th workshop, "Using Technology with Learning Disabled College Students," a three hour hands-on workshop/demonstration was held on Monday, March 19, 1985 at the Computer Laboratory of LaGuardia Community College. Nineteen SUNY and CUNY counselors and instructors enrolled, fourteen attended. Registration was limited due to the number of available terminals.

LaGuardia Community College has a grant-funded program for "Teaching Learning Disabled Students to Write Using Word Processing." They use a microcomputer to provide students with a physical aid that makes the slow and repetitious procedure of reviewing and revising writing a performable task. Each participant at the workshop became familiar with the microcomputer equipment and the WordStar writing program. Each composed an essay, entered it into the system, corrected spelling or typing errors, and moved paragraphs.

The hands-on experience was followed by a discussion of some of the educational ramifications of the use of computers with learning disabled students. It was explained that at first students were placed in the course solely on the basis of teacher recommendation. Teachers were asked to look for students with a history of repeating the Basic Writing Course two or more times and with some obvious learning disabled manifestations, such as reverse lettering, missing words or inflections or illegible handwriting. Once students were in the class, they were

tested by two learning disabilities specialists who work with the program. Non-learning disabled students who requested the program were admitted if there was sufficient space.

LaGuardia reports remarkable success in teaching writing with the aid of the word processor. For example, in a Basic Writing Class of eleven learning disabled students who had failed the course an average of three times, ten passed when writing with a micocomputer, most with A's and B's. Preliminary indications would also seem to point to a "ripple effect", i.e., most of those students did much better not only in their writing course but in other courses as well.

At least four aspects of the course seem to influence the students positively:

- o Learning to operate the word processor gave students an initial sense of achievement and expertise.
- o Seeing their work in a variety of formats -- on the screen, in printouts for immediate revision, in printouts for at-home reworking -- made students more conscious of the grammar, organization and content of their writing.
- o Working on word processors fostered a great sense of collaborative learning. Peer critiques fostered a spirit of cooperation.
- o Working on the word processor gave students who had never before experienced the "normal writing process" in full -- i.e., the cycle of outlining - writing - revising - rewriting, etc. -- a sense of the way a piece of writing is effectively completed.

During the discussion that followed the hands-on experience, Pearl and Schneider added other advantages of using word processing with learning disabled students:

- o it helps students to be more alert;
- o it helps with proofreading skills;
- o it helps them remember correct spellings;
- o it forces the student to look things up on the instruction sheet;

- o it helps focus the student's attention;
- o it helps improve eye-hand coordination;
- o it helps with organizational difficulties as words and paragraphs are easily moved around.
- o the screen is non-judgmental and generates feelings of success.

Participants were enthusiastic about this experiential workshop. One reported feelings of embarrassment when she needed to ask for help three times and another said she felt frustrated when the learning didn't come quickly. Both said that they now understand better both the frustration and the satisfaction students experience. In response to a question regarding whether it is difficult for students to have to learn another skill, Gallagher explained that students master the word processor quickly because writing is taught differently on the computer. This applies also to students who have difficulty with directions as there are really only four commands to be mastered -- up, down, left and right --and students can see it on the screen.

Gallagher added that twelve is about the optimum number of students that should be in a class. A recently published monograph, "Microcomputers and Word Processing Programs -- An Evaluation and Critique", authored by Dr. Gallagher, was distributed to all workshop participants.

SECOND CONFERENCE

Accommodating Sensory Impaired Students In Occupational Programs: Instructional Strategies For College Staff

Friday, March 1, 1985

Adapting The Microcomputer and Other Equipment for Visually Impaired Students

Presenters: Bob Keenan, Telesensory Systems, Inc., Northeastern Regional Manager, Blindness Products
Frank Irzyk, Media Specialist, New York Institute for Education of the Blind, Bronx, New York

Bob Keenan, showed computer activated devices that blind and sensory impaired students can use to access computers and become computer literate.

He demonstrated the Versabrilie, which is essentially a portable electronic word processor and terminal for Braille using students. It has a Braille Keyboard and displays 20 cells of Braille dots that push up and down as a person types into it or reads back off the memory that exists in it. Everything is stored on a C-60 cassette which can hold 400 pages of Braille. These pages can be accessed very rapidly enabling the student to use the device as an electronic notebook. A visually impaired student can carry it from class to class, type class lectures on to the cassette and store an entire semester's worth of notes on one C-60 cassette.

Right now only Braille using students use the Versabrilie. It can also function as a terminal for the Apple microcomputer to do more advanced programming, word processing, and translations.

Without plugging into a microcomputer the Versabrilie can be used for writing reports (in Braille) and formatted so that the report can then be sent directly to a printer. The Versabrilie will automatically translate the report from Braille to regular type and print on paper which can now be handed in.

Keenan and Irzyk also demonstrated voice activated equipment. One, designed for the Apple, is called Braille edit; another system, called the Vert, has been written for the IBM P.C.

Funding for equipment is a key issue. Keenan pointed out that currently 30 Versabrailles are being purchased by the state and soon will be available to students. There are funds which may be used by the Commission for the Blind and Visually Handicapped (CBVH) to purchase specialized equipment for students on the undergraduate and graduate level which they may take with them to an employment situation. Most students who are born blind or severely limited learn Braille while many of those age 60 and over who lose their sight late in life do not. The Versabrilles are designed to be used by a student who is a good Braille user.

The Kurzweil Reading Machine, an advanced optical character reader, can read a paper or journal, speak it and send it to a computer. Thus a Kurzweil can read the information and enter the data into one's computer. A Versabrilles costs \$6,750; a Kurzweil, \$37,000. Because the blindness market is a small and dedicated vertical market, they are not cost efficient and usually go into libraries and resource centers. One participant pointed out that the Kurzweil has limited usefulness because there are materials it cannot read, although it has been improved in recent years.

Frank Irzyk, discussed how he has adapted equipment and materials to fit in with existing equipment and materials in order to keep costs down. He pointed out, however, that the Kurzweil offers a great deal more access to printed materials. Until recently, there has been little or no training and little reason for print handicapped persons to go into a library. Training is needed and although high priced, he feels it is important for students to learn how to use it.

Adapting Materials for Low Vision Students in the Classroom

Presenters: Bert Flugman, Director, Center for Advanced Study in Education,
City University Graduate Center, New York
David Katz, Project Director, Institute for Research and
Development in Occupational Education, CUNY Graduate Center,
New York

The following case study was presented so that the group could engage in a problem solving session.

"This is the case of a student whose eyesight is extremely poor. He suffers from glaucoma, cataracts and a detached retina in one eye. What vision he has in one eye is tunnel vision. It has recently and rapidly worsened. You have been asked to teach him a math class which includes a lot of boardwork. He has been described to you as someone who is awkward and unsure in his mobility tasks. He is shy in communicating."

The audience was directed to discuss the case with the person seated next to them and to think about how they would deal with the student. In the ensuing discussion, the following suggestions were proffered:

- o ask student what might be helpful;
- o use the student as a resource;
- o ask the student how he/she plans to get the information in class;
- o tap into an existing support structure, if one exists, and try to get help and suggestions from that support structure;
- o make sure the student has all the aids and devices in terms of technical equipment to assist him or her in the classroom. Also make sure the student is sitting in front of the classroom and that his lighting conditions are proper. Find out if glare is bothersome and if it would help to sit by a window. Also make sure that a tape recorder is available for certain lectures; try to provide as much information as possible in handouts or make sure the student has a notebook with him.

As a stimulus to discussion Flugman read the following description of how Professor Schindler had dealt with the situation:

"I'd like to talk to you about N, a low vision student in my classroom. My own background did not really prepare me to work with this problem. N came to my class Fall and by the second class I realized he had a serious in the vision problem. He wears "coke bottle" glasses and read and wrote only by practically putting his nose to the paper. He used no tape recorder and seemed to take very little in the way of notes. One of the first things I did was contact the Baruch Center for the Visually Impaired for advice and to see if they could find a reader for N. In my conversation with the people at the Center I discovered that N was unknown to them and moreover, no reader was immediately available. I contacted Cathy, a student I knew from one of my other classes, and asked if she would like to read for and tutor N. Cathy said "yes". In class I asked another student to make carbon copies of her notes so they could be immediately available as a guide for N and Cathy. I am not aware of teaching any differently because N was in the classroom. Possibly I spoke more slowly. I was never fully aware of how much N was absorbing during the class."

In reacting at this point, a participant said:

"I teach math and computer science. I find myself saying more while I write on the board, especially if a student is taping. If I'm writing symbols on the board, instead of just drawing, I say, for example, 'you make an oval'.

Another commented:

"It is important to immediately contact a resource in the college."

Schindler's treatment of the situation continued:

"Outside of class, N and the tutor were pretty much on their own. I usually talked with them before they began working about what might be best to emphasize that day. Frequently at the end of the session I'd stop in to see if they had any unresolved questions. Within a few weeks, Mary LoCricchio from the Baruch Center for the Visually Impaired became available to work with N so that he was provided outside help for between two and six hours per week. I spoke regularly with both Cathy and Mary about N's progress and problems."

"I made special arrangements for N and the two tutors for quizzes which I gave weekly. It was not very inconvenient to let N take his quizzes about a week later than the rest of the class--sometimes in class, sometimes at odd hours in empty classrooms. I didn't worry very much about exam security. As for quiz format, I used wide-ruled paper, wrote with dark magic markers using 1½" block letters, and provided N with a large supply of

wide-ruled paper on which to write his solutions. When the material became more and more complicated visually, the tutors read N's quizzes to him and wrote out his answers for him. I allowed N unlimited time for his quizzes and for his final. In fact, he wrote his final in two lengthy sessions. Earlier in the semester we gave N as much latitude as possible with deadlines. Toward the end of the semester we established the same limits for him as for any other student."

A participant pointed out that an underlying positive attitude towards accommodations and modifications and meeting the needs of the students was at work in this case, while another indicated that the student had no role in helping himself. It was stated that the student needs to be helped to develop coping competencies that would be generalizable to other areas where less support is available.

Katz indicated that this student was under a tremendous amount of stress. He was taking a full load and working full time. A representative from the Commission for the Blind and Visually Handicapped stated that a student with as severe a visual impairment as N's probably would be supported by her agency. Katz pointed out the reality that here was a student who got to college without the Commission knowing him.

Support Systems that Helped During my College Experience

Presenters: Eileen Flemming, student at Baruch College
Carmen Gomez, student at Queensborough Community College.

Eileen Flemming is 21 years old and totally blind. She is in her second year at Baruch. Due to diabetic retinopathy she lost her vision at age 17. She decided to go to college two years after losing her sight. She had to adapt to using recorded textbooks, relying on taping classes for class notes and having readers read to her when she was unable to get her texts on tape. She was nervous when she started but found professors to be helpful and supportive.

In describing how she manages her college experience, Ms. Flemming said that at the beginning of the semester she introduces herself to her professors, explains her situation and discusses what she thinks will be helpful to her in that class. She informs them that they will be able to have tests printed in Braille at the Computer Center for the Visually Impaired or that she could have someone read her exams to her. She and the professor decide together how they will work together. She tapes her classes, then listens to the tapes at home after class and transcribes her notes into Braille. If she has homework, she usually gets someone to write it out or type it for her. Professors usually agree to extend the time that her work is due which reduces the pressure and stress she might otherwise feel. On occasion she uses the Kurzweil Reading Machine for reading. Flemming asks her math professors to be very specific and to describe exactly what they're doing as they write on the chalkboard.

Baruch has a student organization called Helpline that is trying to develop a program in which sighted students with good reading ability will volunteer to do reading for visually impaired students at the college.

Math teachers at Baruch have visited the Computer Center for the Visually Impaired to become familiar with the equipment and have requested constructive criticisms as to how they can adapt their teaching techniques for the visually impaired. Tours of the Computer Center for the Visually Impaired may be arranged upon request.

Carmen Gomez, a student at Queensborough Community College has been partially blind since she was one year old due to retinitis pigmentosa. She has had implant surgery and can now read large print and move about without the aid of a cane. She uses the Visual Tek machine.

Gomez returned to school after participating in a special program for the blind led by Elliot Rosman, Disabled Student Coordinator at Queensborough Community College. There she received mobility training and the knowledge that success in college was possible for a visually impaired person. Like Flemming, she identifies herself to a professor early in the term and uses a tutor to clarify concepts she may not understand. Things must be written large and she often doesn't bring down such things as parenthesis because she doesn't see them. Although some professors may be "hard to deal with," most are supportive and helpful, making sure she has proper notes and understands. She uses notetakers and tapes lectures. Teachers allowed her to take extra time for tests and to take tests in the Disabled Students Office. Although Queensborough has seminars to acquaint professors with the needs of disabled students, Gomez stressed the importance of students taking responsibility for their own actions. She uses the Lighthouse for readers services and avails herself of whatever help is available. She is also active with student organizations.

Job Restructuring and Job Site Adaptations for Visually Impaired Employees

Presenter: Elizabeth Aldworth, Market Research, General Foods, Inc., White Plains, N.Y.

Elizabeth Aldworth started in the phone room of General Foods and was advanced when she convinced the company that she had the intelligence to do interviewing and writing. She stated that companies frequently don't know what to do for a visually impaired employee and are frightened. She advises blind people not to depend on the altruism of industry but to advocate creatively for themselves. She advised blind employees to:

1. Find and get all the resources they can both in and outside of the company;
2. Figure out how to get grant money;
3. Generate interest; the drive must come from the individual e.g., you find out what the computer can do and demonstrate to the company how it can make you more cost effective;
4. Be flexible and do something that will make you more productive. Blindness is a handicap and in the world of reality, blind people must learn how to market themselves competitively and how to be resourceful and creative.

She advised counselors to help students to be as independent as possible, to develop skills, to learn how to access resources and to help students develop an attitude that will help them live with the frustrations and stresses they're going to have to live with as a blind or visually impaired person.

Effects of Hearing Impairment and What a College Can Do

Presenter: Rosemary Saur, Chairperson, Department of Science and Engineering Support, National Technical Institute for the Deaf (NTID), Rochester Institute of Technology (RIT), Rochester, N.Y.

National Technical Institute for the Deaf (NTID) is one of the nine colleges of the Rochester Institute of Technology (RIT). It is unique in that it is a federally funded college for the hearing impaired located on the campus of a private, regular hearing college. NTID offers a certificate diploma and AAS degree program in technical areas to its students. Those wanting a higher degree are mainstreamed into the other colleges of RIT.

The department of which Dr. Saur is chairperson offers support services such as tutoring, notetaking, interpreting, counseling and advising. She encouraged conference participants to use NTID as a resource for setting up interpreting or tutor/notetaker programs or for other information about working with hearing impaired students.

In describing some of the problems of setting up support services for hearing impaired students Saur stressed that it is important to look at support services in terms of what goes on outside as well as inside the classroom in the life of the deaf person. Then she described the deaf high school population as compared to hearing peers. Deaf students who come to NTID have a reading achievement of about eighth grade and these are the best and brightest. Deaf students tend to be four to five years behind in achievement levels. In addition, hearing impaired students tend to be somewhat developmentally delayed in their social development and have difficulties in their role-taking abilities. Support must take into consideration the effects of hearing impairment, i.e., that although extraordinarily bright, the average

student will be behind in reading ability and will tend to have difficulties in higher level math courses. These deficits will have an impact on the individual's ability to complete college. Therefore, basic reading and math skills training and writing training is absolutely essential, as is special attention given to study skills, thinking skills and problem solving skills.

The ability to speak is no indicator of success in a program although this often impresses an admissions counselor. High School grades are not an accurate predictor of academic potential either because teachers sometimes push the student along and grades may then represent effort rather than mastery of a subject.

Tutor/notetakers at NTID provide social interaction for the hearing impaired and often gain new perspectives for themselves as well, as deaf students sometimes understand things the hearing student doesn't. NTID is concerned also about "dependency reduction", i.e., how to help a student go from a situation where there is so much support to a real world situation where there may be little or none.

Instructors sometimes need help in learning how to work with interpreters and students need to learn how to deal with a hostile world. Some instructors get very involved, including learning how to sign themselves, while others just don't want deaf students in their class. NTID tries to develop coping skills in the student as rejection is something they will experience many times. The following advice was offered to instructors of hearing impaired students:

- o Refer student to a counselor for tutoring and other support services rather than spend an inordinate amount of time trying to provide all the help yourself;
- o Allow a little more time for test taking. It may take a hearing impaired person more time to do things, but they can usually do it as well as a hearing student; treat time as a variable, using the concept of mastery learning.

- o Use visuals and overheads. Don't talk to the chalkboard. Send to NTID for booklet "The Hearing Impaired Student in Your Classroom" which includes many tips for faculty.

FM Systems, Hearing Aids and Other Assistive Devices

Presenter: Diane Brackett, Director of Communication Therapies, N.Y. League for the Hard of Hearing

Diane Brackett demonstrated how to read an audiogram. She explained that if a person is not hearing every bit of the speech signal in the high or low frequency range, the individual will not be able to repeat words accurately. A hearing aid will increase the loudness of the sound coming to the person's ears so that the entire range of sounds which are important for speech reception becomes accessible to the person.

Because all the speech signals are not available to someone with decreased speech sensitivity, the person has trouble accessing all the auditory verbal information. Thus, when the person is learning language he/she will have trouble learning it to the degree a normal hearing person would. Therefore, hearing impaired persons may have trouble developing a very strong language base. This would then impact on their reading skills and any of the academics that use reading as a primary input source. The hearing loss causes a communication deficit and the communication deficit then impacts on the person's academic performance as well as on the person's social interaction skills.

Typically the kind of communication problems that are attributed to hearing impaired individuals may be characterized under the following headings:

- a) problems in just basically receiving speech either through audition i.e., through aided hearing, or through speech reading.

So one has to look at the factors that interfere with reception because a receptive difficulty may manifest itself in inattentiveness. The student who has difficulty hearing speech may look out the window rather than focus on the teacher, as hearing students would.

b) comprehension of spoken language.

This may run the gamut from having decreased vocabulary skills to having a grammar system that's not as sophisticated as that of normal hearing individuals. A classroom manifestation of this comprehension difficulty would be in difficulty understanding lecture materials, which could also cause inattentiveness. This may be compared to a foreign language situation where one knows a little bit of the language and someone is talking at a much more sophisticated level. After a certain point you tune out because there is no way you can grasp enough of the information. That's what happens to the hearing impaired student who has an insufficient language base to handle the instructor's oral material.

In terms of production difficulties, the student may not be able to produce a completely grammatical sentence, or the student may produce a simple grammatical sentence, but not a more sophisticated grammatical sentence with clauses and compound and complex sentences. Students may also have difficulty with speech intelligibility. There is wide variability in communication skills even among students who have identical hearing losses.

So any subject having a language base is usually difficult for hearing impaired individuals. One must remember however, that their insufficient verbal skills in no way reflects their intellectual ability. Teachers must find a way to capitalize on a hearing impaired student's non-verbal skills so the person has an opportunity to reach his/her fullest potential.

Brackett then discussed how to optimize whatever residual hearing exists as well as how one might compensate through use of an additional reception mode, such as hearing aids and FM systems.

She explained that there are often misconceptions about a hearing aid. People think that it will clean up the sound so that if a person hears sounds distorted, a hearing aid will make the sound undistorted. This is not true. Basically a hearing aid makes all sounds louder, not just speech. So noise and speech are amplified. Therefore, the acoustic condition of the room impacts upon the ability to hear. Most older school buildings tend to have reverberating surfaces, such as hard surfaced floors covered with linoleum or tile, painted ceilings, and painted walls which reflect all the sounds in the room.

Instructors need also to learn what constitutes noise for a hearing impaired person. Normal hearing persons learn to suppress many noises. The noise of a fan or shuffling of papers could be distracting and mask the speech of the person who is speaking at the same level of sound. So one needs to think like a hearing impaired person and analyze the classroom environment for those kinds of noises.

This includes thinking about the distance of the classroom speaker from the hearing impaired person (speaker-listener distance). The best speaker-listener distance for a hearing impaired person is a three foot radius. Usually in a college classroom or lecture hall, the distance is much greater and the intensity of the teacher's voice diminishes. So basically two factors must be considered: noise and speaker/listener distance.

Brackett then demonstrated via a videotape what speech sounds like when it's recorded through a hearing aid. An optimal listening condition for a hearing disabled student is about one foot away from the microphone of the hearing aid, with no background noise in an acoustically treated room. This optimal listening condition rarely exists in a classroom. Intelligibility and intensity of speech decreased as the teacher moved further away from the microphone. Talking and rattling of papers made it almost impossible to understand speech.

Brackett offered the following suggestions regarding how teachers can help hearing impaired students trying to function under these adverse conditions:

- o a teacher could stay in one spot within visual and auditory range, rather than walk around the room;
- o if funds permit, the room can be acoustically treated i.e., carpeting on the floor, curtains on the wall, acoustically treat the ceiling. However, usually this is not possible;
- o use an F.M. system -- a wireless device worn by student and teacher. The unit allows the teacher to move freely while the sound is still accessible to the student. An F.M. unit can enhance speech over noise and make noise recede into the background. The device can be plugged into the hearing aid directly. An F.M. system was demonstrated with a videotape.

Hearing impaired people rely heavily on visual cues. The following was suggested for enhancing communication:

- o Call person by name, e.g., "Yes, Joe" or "That's right Joe." Don't just say "Yes".
- o Use visual displays. Point to the word that you're talking about on a chalkboard. A hearing impaired person needs a graphic representation of what you are saying.
- o Control the discussion pace within the class. Try to repeat and rephrase what's said.
- o Avoid turning your back to the class. If a lot of boardwork is required, it is very natural to talk and write at the same time. Try to talk first, then write, or write first, then talk. Use an overhead projector when possible instead of writing on the board. An overhead illuminates the situation and also keeps your face in focus.
- o Provide outlines beforehand. Write assignments and pertinent vocabulary on board.

Retrospective and Current Experiences in College

Presenters: Sheryl Eisenberg, Training Consultant, Job Path
Larry Medwetsky, student, CUNY Graduate Center

Sheryl was diagnosed as deaf at age seven months and fitted with a hearing aid when she was nine months old. This early identification of her hearing impairment gave her an opportunity to develop speech and language.

She attended the New York School for the Deaf. Her audiogram is between 110 decibels and 120 decibels. The first four years she had speech therapy every day and her parents worked with her at home as well. Her mother and older brother talked to her constantly.

Her family was very supportive; she reports having a lot of confidence. Until fourth grade when the academics were very concrete she did well; however, after fourth grade the material became more abstract and she had greater difficulty absorbing and understanding it. She met with her itinerant teacher one hour a week which she felt was insufficient. She feels that a supportive family, combined with private speech lessons and a Saturday reading program at the New York League for the Hard of Hearing were crucial factors in her early development.

She felt very insecure during her pre high school years and had a difficult time making friends as her communication skills were limited. In high school she began to fall behind so her parents provided a private tutor for language and vocabulary skills. But teachers, without realizing it, would face the blackboard. Also, many times students would talk from the back of the room so she really missed a lot although she didn't realize it until she was older. What helped most was when she met another deaf person in high school and began not to feel so alone.

Sheryl attended Washington University in St. Louis, Mo. There were no support services for the deaf, no interpreters, and she had to find her own notetaker. She explained to the teacher she was deaf and when the teacher would accidentally face the chalkboard Sheryl would knock on her desk to bring it to the teacher's attention. She would make appointments with the professor to meet after class to be sure she understood the lecture correctly as it's easy to misread lipreading. Teachers should be aware that the deaf student may be shy or embarrassed about revealing their deafness or asking a professor to repeat.

Sheryl offered the following suggestions to the audience:

- o Teachers shouldn't keep a cigarette or pipe in their mouth when they speak because it interferes in reading lips.
- o Keep your voice natural. If not understood, just repeat.
- o Students should have a peer support system which should include hearing people too.

Larry Medwetsky lost his hearing at age three due to scarlet fever, but didn't get a hearing aid until he was 13, so for 10 years he was basically deaf. He cites his case as an example of what shouldn't be done.

A doctor had told his parents that a hearing aid would interfere with his ability to learn to lipread or to concentrate and look at the person. No one ever thought to put him in the front of the room. Subsequently he was put into a self contained class with other hearing impaired students. Neither he nor his parents had any support. He compares it to being in a foreign land where you think you understand and then everyone laughs at you. You have to be very strong to handle that. You develop a lack of confidence.

While in high school Larry never dated, thinking girls wouldn't go out with him. The ability to accept his own hearing loss didn't come until age 25. In high school

his teachers didn't know what to do for him and he tried to conceal his hearing impairment as much as possible. He felt he wasn't "normal." He wasn't helped by college professors either (he attended college in Montreal) and always missed part of the class notes.

Larry recommends that schools and faculty:

- o Conduct screening programs to identify the hearing impaired student;
- o Encourage friendships, develop trust between the teacher and the students and have empathy;
- o Visit other classes that have hearing impaired students to observe what should and should not be done if you know you will have a hearing impaired student in your class;
- o Role play how to stand at the chalkboard or use a projector.

He also recommends that hearing impaired students join peer groups to develop assertiveness and to give teachers emotional support.

Job Restructuring and Job Site Accommodations for Employees With Impaired Hearing

Presenters: Andy Lazorisak, Associate Analyst, Security Administration, IBM, Franklin Lakes, NJ
Loretta Lembo, Personnel Department, IBM, Franklin Lakes, NJ

Andy Lazorisak, an IBM employee who is deaf, explained that most of his work is in security administration and that communication played an important role in his adaptation to his job. He feels that it's important for deaf people to understand themselves and their deafness and to be able to educate other people about their deafness so that hearing people can feel comfortable communicating with hearing impaired people. When he began to work he felt comfortable only when communicating one-on-one with another person. Now sometimes three or four people are in his office at one time and he'll ask them to please speak one at a time, taking turns, so that he is able to read their lips. He also devised a code that he uses to knock on a door so the person inside would know it was him and come right to the door as he can't hear if they say "come in."

Andy competed for promotions on an equal footing with others. He studied manuals and other materials to be sure he could perform the functions of the job and has slowly gained confidence. When he started, he worked alone, but gradually made friends. He now communicates with as many as 50 people a week in security administration and feels he has grown a great deal.

He has also had some experience as an instructor, teaching 18 deaf students computer science. He tries to help deaf students understand their own needs and desires and reassures them regarding their ability to get a job.

Loretta Lembo offered an overview of IBM policy from the personnel point of view. She said that IBM has a commitment to employ the handicapped and has also

modified products to accommodate disabled persons. Some of the modifications they have made are:

- o bringing in interpreters for hearing impaired employees attending meetings;
- o purchasing TTY's for hearing impaired employees;
- o using a PROF System (Professional Office System) which enables hearing employees to communicate electronically back and forth with hearing impaired employees;
- o installing visible alarms in restrooms so that lights would flash in the event of an emergency in the building, and providing vibrating pagers which are worn around the waist.

THIRD CONFERENCE

Accommodating Students With Orthopedic Or Hidden Disabilities: Instructional Strategies For College Staff

Friday, April 26, 1985

Introduction

As in the prior two conferences of the series, workshops were designed to address three areas: technology, accommodations and support services, and employment. The first workshop of this conference was devoted to updating faculty and counselors regarding ways to make the computer accessible to students who have manual dexterity disabilities. During a conversation with Dr. Victor Margolis, Coordinator of Disabled Student Services at Nassau Community College, at our second conference, project staff learned that he was in the process of implementing a program to make computers accessible to disabled students. Project staff believed that Professor Margolis had something to offer regarding computer hardware, software and adaptations for a variety of orthopedic and other disabilities. Not only did he agree to present and prepare literature for distribution at the conference, but he arranged for Christine Abbey, Educational Products Manager of the Computer Ability Corporation, Pine Brook, N.J. to demonstrate an assortment of aids for computer access by physically disabled persons.

The second workshop of this conference addressed the area of psychological and instructional accommodations for students with hidden disabilities. Hidden disabilities impact upon students who are intellectually able, yet may need programmatic changes if they are to succeed in college.

The "catch 22" for people with a hidden disability is that they appear to be non-disabled. Therefore, they are expected to be totally self-sufficient. Because

they are not "disabled enough," there is often a lack of understanding of their need for accommodations or modifications of certain activities. Informal discussions with counselors and students revealed stories of how this group of disabled students (those who have "hidden" disabilities) were not believed or were told that they were "babying" themselves. These attitudes, or the other extreme, pity or shunning (out of fear or lack of information), often resulted in students not wanting to identify themselves as having a disability. Thus, they denied themselves services to which they were entitled, making it even more difficult for them to succeed.

Researching the topic was a consciousness raising exercise for project staff, as we learned of the wide range of physically limiting (but not obvious) illnesses students might have, such as: arthritis, cancer, and diabetes, emotional conditions (including alcohol and other drug addictions), epilepsy, heart disease, hemophilia, kidney disease, emphysema, asthma and other lung diseases, multiple sclerosis, muscular dystrophy, ostomy, sickle cell anemia, and Tay-Sachs disease.

Students who have these illnesses often feel they have no control over their lives. Their illness can flare up at anytime, they may need sudden hospitalization, and are often fatigued and/or excessively absent. One counselor reported, for example, the situation of a student who was recovering from an emotional illness who "freezes and gets panic stricken" which sometimes makes her late in handing in papers. The professor felt she was "just being babied."

Time constraints made it necessary to present only a representative sample of hidden disabilities at the workshop. Epilepsy and sickle cell anemia were selected. These were used to illustrate the effects a hidden disability might have on learning, signals by which an instructor might identify a student with a hidden disability, and steps to take, including such actions as emergency medical procedures. Among the

issues that were explored were such questions as "what is the responsibility of the instructor to a student who, because of his or her disability, is late, excessively absent or performing poorly?" and "in what ways should an instructor take into account a student's disability when evaluating a students' performance?"

The third workshop introduced the possibilities of homebased employment as an accommodation for those disabled individuals who may not be able to negotiate a transportation system, or otherwise adapt to the working conditions of industry employment.

Making the Computer Accessible to Disabled College Students.

Presenters: Victor Margolis, Coordinator of Disabled Student Services, Nassau Community College, Garden City, N.Y.
Christine Abbey, Educational Product Manager, Computerability Corporation, Pine Brook, New Jersey

Dr. Victor Margolis, Coordinator of Disabled Student Services, Nassau Community College, and Ms. Christine Abbey, Educational Products Manager, Computerability Corporation, Pine Brook, New Jersey demonstrated a variety of aids and discussed issues involved in making the computer accessible to disabled students. A summary of the workshop follows.

Abbey demonstrated the following adaptive equipment: The Adaptive Firmware Card and Unicorn Expanded Keyboard. The Adaptive Firmware Card permits physically handicapped individuals easy access to the Apple IIe computer and allows any software program to be run with a single switch. A tool for communications, interactive learning, word processing, and game playing is created when features of these products are combined with the Apple IIe. One of 14 scanning techniques can be added to commercially available software by turning on the Adaptive Firmware Card. Scanning techniques can be changed and the speed of software programs can be altered from very slow to very quick throughout the running of a program.

When the Unicorn Expanded Keyboard is attached to the Adaptive Firmware Card, an alternative keyboard which requires no programming skills becomes ready for use. It operates with an interface box that mounts on the side of the computer. It may be used on lap boards, wheelchairs, or floor, is easily cleaned and cannot chip or crack. With this equipment disabled adults and youths are able to gain access to the full capabilities of the Apple Computer. A firmware card costs approximately \$400.00.

Abbey demonstrated some hardware adaptations and their usage on one word processor software program. She explained that she started the company when a relative became quadriplegic and most stores didn't know about adaptive devices. Most adaptations available at this time are for the Apple IIe.

She demonstrated a voice feedback word processor software program called the Talking Writer, a very limited word processor program, but useful for demonstration purposes. It is used with an Echo speech synthesizer. She showed a variety of switches that can be used by a disabled person to activate the equipment -- an air cushion switch that can be used with one's elbow or knee, and a hand switch, a head switch, and puff switch which can be mounted on a wheelchair or table. It comes with disposable mouthpieces so it can be used by different individuals.

Abbey also demonstrated another commercially available product called the Power Cap which can be helpful for architectural drawings or layout planning. It can be used as a drawing board but can only be used with programs the individual writes; while the Adaptive Firmware card can be used with commercially available software. A hard copy of the picture can be made and slides can be made from the hard copy.

One drawback is that most screens are too small for visually impaired persons and distortion occurs when used with a magnifier.

Voice input devices cost approximately \$1,000.

At Nassau Community College all students are required to use certain software and Margolis feels the major issue today is computer access, just as architectural access was the issue some years ago. Via a small grant Margolis was able to get three Apple computers and a variety of adaptive devices for the college

after which he enlisted the aid of faculty and staff of the Academic Computing Laboratory. He trained staff first and then began to introduce the microcomputer to several disabled students. He now has an Advisory Committee which includes himself, representatives from the math, psychology, and English departments and several interested students. With computers rapidly infiltrating the classrooms, Margolis would like to see at least one computer in each classroom reserved for disabled students. At Nassau Community College the Computer Center may be used by any student and has no connection to any particular department.

In response to a question, "How do you determine what equipment to buy?" Margolis explained that he looked through disabled students records and decided which equipment would be helpful to most of the students, recognizing that he couldn't satisfy the needs of all. Some equipment, although desirable, was not purchased because it was too costly.

Another participant asked, "Have you seen any learning or motivational outcomes from students who are involved with the computer?" Margolis explained that he has only anecdotal evidence as the program is still too new. He sees advantages in that the computer allows students to review some things repeatedly to correct their work and does not scold or criticize. He reported that the research shows a somewhat mixed reaction. Some students learn about the same as without a computer while others indicate it is a help. He cautioned that the quality of the software available must be looked at carefully. He reminded the audience that the tables that the equipment is on must be raised to accommodate wheelchair students and that there may be other problems related to placement of switches and moveable keyboards.

Psychological and Instructional Accommodations for Students with Hidden Disabilities.

Presenters: Kathleen Quinn, Career Counseling Director, Epilepsy Institute, N.Y.
Dick Campbell, Director, and Beryl Murray, Assistant Director, Sickle Cell Anemia Foundation, N.Y.
Gregory Thomas, student, Baruch College

Following is a summary of the presentation by Kathleen Quinn,
Epilepsy and its Interference with Learning.

Kathleen Quinn explained that epilepsy itself does not lower one's intellectual functioning. Of course no learning is possible during a seizure itself and immediately afterward, but that is time limited, e.g., in the case of a grand mal seizure. In the case of psychomotor and petit mal epilepsies, an episode may go unnoticed but the student may miss a section of the lecture and will need to fill in that gap. Many students who have frequent seizures of this type and know they will miss part of the lecture bring a tape recorder to class so that they will have the complete lecture at home or may arrange with a classmate to help them catch up on what was just said.

The possible negative side effects of an anti-convulsant medication have even greater potential for interference with learning than a seizure. Side effects are most likely to occur when medication is newly initiated or changed. Most negative side effects are mild and temporary and will disappear within 2 -3 weeks. If side effects persist, the student should seek either reduced dosages or alternative drugs, through their neurologist. Possible side effects that might interfere with learning are: drowsiness, lethargy, dizziness, blurred vision, insomnia, depression and irritability.

Regarding the issue of "reasonable accommodations" vs. either intolerance or patronization, either of which would be very detrimental to the student, Quinn said

that as a general rule there is no reason for excessive absences or lateness. However, on occasion, if a student happened to have had a seizure that morning, he or she might be late getting to class or it might necessitate an absence for a day or two. In such cases, reasonable accommodations might include allowing make-up exams or granting extensions on papers or projects. A student may occasionally try to exploit a situation, for example, by claiming the medication is making him/her oversleep every day -- of course, if true, the medication should be changed or altered.

As for evaluating a student's overall performance, students with epilepsy should be graded on the same criteria as every other student to prepare them for the real world and to enable them to make a valid assessment of their own capacities. Of course, accommodations should be granted, if truly needed, as in the case of a student having seizure activity. Students who have epilepsy should be tested in a quiet environment, because for some individuals, although not all, stress can induce seizures. Also, sometimes students do not take their medication regularly, suggesting that they may need on-going counseling to help them deal with their disability. An instructor is often in a position to observe if a student seems depressed and to suggest that the student seek counseling help.

Following are steps the instructor should not take when working with students who have epilepsy:

- o do not fear or pity the student;
- o do not discourage participation in recreational activities;
- o do not treat the student differently. A student with epilepsy should participate fully in college life and not be pampered or overprotected. Seizure control is usually very good or complete once a person is stabilized on anti-convulsant drugs.

The Epilepsy Institute can make referrals for diagnosis and suggests that sometimes second and third opinions are valuable. Treatment differs in different clinics.

Following is a summary of the presentation by Dick Campbell, and Beryl Murray, Sickle Cell Anemia Foundation, and Gregory Thomas, a student at Baruch College.

Sickle cell anemia, a blood disorder, was described as a national health problem. One of every 12 black people in the world is a carrier of sickle cell trait. One of every 500 has sickle cell anemia. There has been a great deal of misunderstanding and misconceptions about the effects of sickle cell anemia, e.g., airlines, ignorant of what sickle cell trait was, once kept black hostesses on the ground because of an incorrect belief that in high altitude persons with sickle cell anemia would have certain reactions that would prevent them from attending to the needs of passengers. The case was taken to court and it is no longer required that black women be tested for sickle cell trait which until recently was required by all airlines. As recently as 1972 a black truck driver was fired because he had sickle cell trait. It was emphasized that anyone with sickle cell trait can function as well as anyone without sickle cell trait.

Many people with sickle cell trait or sickle cell anemia do not even know they have it. For many years blacks have been doing all kinds of work without even being aware that they have sickle cell trait or anemia. This needs to be emphasized to employers and not used against a person with a hidden disability.

A question was raised as to whether or not a person should reveal if they have sickle cell trait or epilepsy. Murray explained that because of attitudes, many people may not disclose at first, then reveal later on when they have established

their ability to do the job. Discrimination still exists, but there is also more legal protection.

A faculty person in the audience commented that often a teacher cannot be sure how truthful a student is when he or she discloses, as each student makes his/her case sound serious and teachers may feel uncomfortable about asking questions. Therefore, she felt that a claim should be backed by other evidence -such as a medical report. Quinn and Murray felt that it was unlikely that a student would claim to have epilepsy or sickle cell anemia if they did not have it because it stigmatizes them but agreed, nevertheless, that a student's claim of illness, or requests for accommodations, should be supported by additional evidence.

In response to the question "what is a crisis and how does a student know if they're about to have one?" Thompson explained that the person usually knows four to five hours before they have an attack because of pain in the abdomen, arms or legs. Usually eyes become jaundiced, there are pains in the joints and a person may be incapacitated to the point where they can't walk. A crisis can last from 12 hours to one or two weeks. Thompson had to withdraw for one semester due to two long-lasting crises and it was suggested that a homebound program might be an alternative to on-campus attendance at college.

Home Based Employment As an Accommodation to Hidden and Orthopedic Disabilities.

Presenters: Merrill Parra, Director, Homebound Program, Queensborough Community College
Carol D'Agostino, Student and home-based employee, Electronic Services Unlimited
Maureen Nolan, home-based employee, N.Y. Power Authority
Lorraine Murtha, Administrative Specialist for First Exec. V.P., N.Y. Power Authority, White Plains, N.Y.

Merrill Parra, Director of the Homebound Program at Queensborough Community College reported that a pilot homebound program was established in 1973 as a response to the open admissions policies. At that time there was no place where students graduating from a New York City Board of Education homebound studies program could continue their studies. The program began with six students and was funded by the evening school student government.

A two credit cooperative education course funded through a NYS vocational education grant, called for 90 hours of participation in a work setting with supervision. When students were ready for placement, program staff approached industry for placement opportunities and last year 11 students were placed to work with industry at home. Using computers which were loaned to students for the duration of courses, students did such work as conducting marketing surveys for an athletic equipment company, data entry and data program development. One student worked on "Sesame Street" for WNET, analyzing viewer comments; someone is working on a newsletter doing word processing from his home for a local hospital and an accounting major is working for an accounting firm. In response to some students' concerns about "invisibility", they were encouraged to visit the company, if possible, and in some cases, employers came to visit the student employee at home.

Establishing home based work opportunities requires perseverance and lots of time and tolerance for frustration, but Parra discovered that there does exist a cadre of employers who are seriously interested in testing out the concept of home-based work. She emphasized that it is important to understand that the basic philosophical premise of the program is not to encourage people to remain at home, but to show that homebound employment may be a viable alternative for persons who may not be able to sustain full time or part time employment outside of their home. There is no substitute for full participation in the community; homebound employment merely offers options so that people are not excluded from the mainstream entirely if they are not able to leave their homes on a regular basis to participate either in regular schools or regular employment.

Parra pointed out that professionals, such as accountants and physicians, have always been able to work at home. The U.S. Department of Labor reports that the total work force is 110 million people, of which it is estimated that over 20 million people do some kind of work at home. Ten million homes are serving as business headquarters. It is estimated that at this time there are 7.2 million corporate jobs suitable for conversion to telecommunications. Telecommuting, made possible because of computers, is the idea that the work travels, not the individual. The computer has helped to break down employer resistance and has made it possible for someone who is homebound to find sufficiently high paying employment.

Using interactive technological equipment which was set up at the conference Parra demonstrated how homebound instruction and employment is conducted.

Carole D'Agostino, a home-based student, spoke from her home via a conference telephone hookup and loudspeaker, so the audience was able to experience the concept of interactive communication. D'Agostino, a mature single

woman, has a metabolic disorder causing extreme fatigue, which severely limits her daily living activities, such as work, on-campus education or social activities outside her home. When her disability worsened she became depressed and frustrated and worried about her ability to make a living and maintain her independence.

Through equipment loaned to her by the homebound program she learned up-to-date word processing and computer skills on an IBM Displaywriter and Apple computer. In the beginning she worried about whether she would be able to hear the classroom work over the speakerphone and was easily frustrated by small obstacles, but support from the Homebound staff helped her develop self confidence and cope.

She reported that some professors also had doubts as to whether telephone teaching is a viable educational tool and feared that it might add extra work to their already overburdened schedules. Some feel self-conscious about the presence of an unseen student in their classroom. However one professor became so committed to the program after some initial reluctance, that he still follows D'Agostino's progress and guided her through another difficult course.

In 1983, D'Agostino was assigned to work as an intern with a corporate employer, Electronic Services Unlimited, a research and consulting firm studying telecommunicating. The Homebound Program lent her a word processor, a computer and software. At the end of the internship she was hired by her employer and has been working for them for over a year doing writing, wordprocessing, and data base management. The firm has since employed two more homebound employees who D'Agostino now supervises. In response to a question about how she supervises by telephone, she explained that she understands their feelings and anxieties, clarifies what is wanted and offers assistance. She explained that she works as an independent contractor, approximately 20-30 hours per week. She also maintains an

evening proofreading job which provides her with medical benefits which she is reluctant to let go of. She described a typical day as follows:

"I started work at 7:30 today. I composed letters in response to some inquiries, inserted them in envelopes, and typed the names and addresses into a DataBase II file. From that I generated labels, and put them on the letters, stamped them, and mailed them from my home mail box. I then put about 70 names on a computer disc from a mailing to be done next week. I write letters and make phone calls."

Maureen Nolan graduated the Homebound Program and is presently in a doctoral program at Columbia University. She also does work at home for the White Plains, N.Y. office of the N.Y. State Power Authority.

Lorraine Murtha, Administrative Specialist, supervises Nolan. She first got involved with the Homebound Program about a year and a half ago as a result of a notice circulated by the personnel department. Of 35 departments, she was the only one who responded. Murtha offered her perspective of the advantages and disadvantages of working with a homebound employee. She summarized the advantages as follows:

- o Maureen's educational background is far superior to that of the usual temporary personnel. Maureen notes needed corrections and does more than just put the information into the computer.
- o It eliminated a need for retraining. Maureen is on staff and if a project is repeated she is already familiar with it.
- o The quantity of work produced is more than adequate.
- o They will be funneling technical writing assignments to Maureen on an experimental basis.
- o There are space considerations. If Maureen were on the premises it would cost over \$3,000 just to furnish an office plus the cost of square footage, heat, lighting, etc. Homebased employment is cost effective, even when the cost of purchasing a computer just for Maureen is included.

The disadvantages are as follows:

- o The company had to buy a computer specifically for Maureen. Usually a computer is shared among several employees.
- o In the beginning most managers were afraid of working with someone they couldn't see. After one manager was willing to work with her, and it seemed successful, others followed.
- o Equipment problems presented another problem. An on-site employee can be assigned another task if equipment fails which can't be done if a person is working at home.
- o Hard copy transportation has been difficult. The Power Authority uses IBM PC's. Networking computers would be possible if the company used a different system, but Murtha pointed out that one must work within the constraints of the organization.

Nolan is a temporary Power Authority employee on their payroll. She is paid per hour. The number of hours worked depends on the work flow and there is no guarantee of hours. Nolan had a year of experience working with a simple mainframe when hired, but no prior experience with a micro. To learn, she studied manuals, visited the company and was assisted by a company employee. It took four to five days before she began to feel comfortable with the equipment.

Other issues to be worked out was the loss of certain services such as attendant care once one is working.

Maureen described difficulties she encountered while trying to work outside of her home prior to her decision to seek homebased employment. Going on interviews was costly (\$25.00 for transportation) and jobs listed with the Barnard placement office suitable to her skills (writing, copy editing, proofreading) paid such low wages she would not have been able to support herself and pay transportation costs as well. She finally turned to Parra who helped her locate her job with the N.Y. Power Authority. For home based employment to be successful Nolan feels a sense of identity with the firm is very important. Her visit to the office, which was arranged by Murtha at company expense, helped establish ties with other company employees.

In closing, Maureen pointed out that people who work with the disability rights movement, such as Disabled in Action, are not tuned into the whole notion of homebased education or homebased work because so much emphasis was placed on mainstreaming over the last decade that any suggestions that one does not push to get out of the home is viewed with distaste. Maureen recommended that members of the audience encourage their students on campus to take up this movement. Parra added that in spite of their college accomplishments, many disabled students simply don't find work after college and that the few studies that are around indicate that the productivity levels of homebound workers far exceeds the productivity of their on-site coworkers. She, too, encouraged participants to think broadly about other options, such as flextime, or homebased work or combinations of both.

APPENDIX

Program Evaluation

Participants at each of the three conferences completed a questionnaire that included both evaluative ratings and open-ended comments (see end of this appendix for sample instrument). This appendix includes separate summaries for each conference including ratings and comments made by those in attendance. Project staff remarks about the evaluation data also appear for each conference.

The conference series was very well received. In 15 of the 17 instances in which evaluative ratings were called for over the series, 85% of the ratings were three or more on a five point scale (five being the most positive). The raw data in the subsequent sections clearly show the extent to which all ratings were markedly skewed in a positive direction. In addition, conference participants generally praised the effort of project staff, for bringing together the presenters, materials, and conference participants.

IRDOE has conducted staff development activities related to disabled students since 1975. In almost every instance each conference has dealt with material not covered previously and has become more sophisticated in terms of the issues addressed. At some points in this conference series, it became apparent that newly appointed college staff and/or those having little or no experience in working with disabled students needed a familiarization with content areas and attitudinal issues that we had presented ten years ago. Therefore, staff development activities in the future should not take for granted the need to deal with basic issues related to disabled students on college campuses, much like doing housework, there is a need to do it again at reasonable intervals.

Student panels were very well received across the conference series. Students described their own problems in concrete terms and were able to illustrate how student and faculty efforts either alone or combined can lead to successes. Based on this and other experiences we have had, we recommend that students always have a part in these types of staff development activities.

The role that technology can play in fostering instructional accommodations was a major focus of the conference series. Most participants found these presentations very provocative.

Some comments by those in attendance reflected on the costs of the devices and the extent to which unanticipated problems can develop when they are used. Several faculty members were also interested in samples of student work that demonstrated improved student performance over time, when using computer assisted teaching interventions.

Notwithstanding the faculty development activities described herein, there continues to be a great need to help faculty develop and employ instructional modifications for disabled students on a regular basis. This need manifested itself when conference participants responded to a question about whether they would like to receive additional help in four areas. There were 168 affirmative responses over the course of the conference series distributed as follows:

<u>Questions</u>	<u>Number of "yes" responses</u>
o Acquiring basic computer literacy (e.g., operation of a computer, use of a keyboard, etc.)	32
o Selecting appropriate computer software	34
o Developing additional strategies for modifying programs, curriculum, and materials	70
o Organizing a self-help/support group for students	32

On the one hand, these responses are a positive indicator of the motivation of college personnel to move forward in order to promote accommodation. On the other hand, these responses point up the extent to which resources will need to be made available to help faculty modify both curriculum and instruction in order to accommodate the ever increasing numbers of disabled students who are entering postsecondary settings.

**CONFERENCE: Accommodating Learning Disabled Students in Occupational Programs:
Instructional Strategies for College Staff**

November 30, 1984

SUMMARY OF RATINGS AND COMMENTS

NOTE: Numbers in parentheses are frequency of ratings.

Project staff comments on evaluation data:

This conference was received well. Participants were pleased with the mix of presentations, focusing as they did on technological and classroom interventions for students with learning disabilities as well as on information provided by the students themselves. Overall, comments indicated that a better understanding was achieved of:

- o The wide range of learning problems associated with the general diagnoses of learning disabled and, therefore, the many different teaching strategies required.
- o The social-emotional factors that are related to learning disabilities and the extent to which they can be ameliorated through counseling and support groups.
- o The extent to which techniques introduced into the classroom for learning disabled students also benefit other students having difficulty with basic skills.
- o The day-to-day living and learning problems of individuals with learning disabilities as expressed in presentations by students themselves.

The general one-day conference was augmented by a special three hour follow-up workshop for 14 college faculty. This workshop, which focused on using word processing with learning disabled students, was presented by faculty from LaGuardia Community College. General conferences followed by small hands-on workshops attended by those with special interest in a particular area may be an efficient procedure to follow for future inservice training programs.

1a. The workshop "Using Technology with Learning Disabled College Students" was:

	1	2	3	4	5
	inadequate	fair	good	very good	excellent
Freq.	(1)	(1)	(14)	(24)	(12)
Percentage of ratings <u>3</u> or higher = 96% (n=52).					

1b. This workshop helped me understand how technology can provide a compensatory learning modality for students who have reading and/or writing difficulties:

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(1)	(2)	(21)	(20)	(9)
Percentage of ratings <u>3</u> or higher = 96% (n=53)					

- 1c. This workshop helped me become aware of research possibilities regarding the use of equipment (e.g., Kurzweil, microcomputers, etc.) with print-handicapped students.

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(1)	(3)	(19)	(17)	(10)
Percentage of ratings <u>3</u> or higher = 92% (n=50).					

- 1d. List some useful ideas that emanated from this workshop, including possible research projects.

- o Effectiveness of the Kurzweil and microcomputer with the basic skills students--controlled and uncontrolled groups to be studied.
- o The extended use of the Kurzweil.
- o It will be interesting to see how the Kurzweil reader can be developed and altered to better meet the needs of the LD students in the future.
- o Reaching out to those LD students needing help and directing them to computers, Kurzweil, etc.
- o How to integrate the computer and the KRM into our program.
- o The potential use in these of the latest A.I. results and the newest technology.
- o Faculty development ideas; use of Kurzweil; purposes of OVR.
- o Transfer of skills from using the computer to writing activities where the computer is not available--denying the student handwriting opportunities--what implications vis a vis the ORTON remediation method.
- o Ideas mentioned are "old hat" though some instructors do not make use of them.
- o Suggest to coordinator of remedial courses that faculty be trained to become aware of LD students in their classes and to refer students.
- o Need for faculty awareness in broad terms, to reach all faculty, not just those with a special interest in LD
- o Using word processing software with elementary and HS students.
- o Promoting faculty awareness of LD in students and adapting teaching practice to accommodate them.
- o Would be good idea for our library to purchase a Kurzweil.
- o Use of word processing programs at earlier grades.
- o Use of microcomputers for increasing the skills of LD students.

le. What additional information would you have liked?

- o Demonstrations of both Wordstar and Kurzweil.
- o Actual papers showing stages of improvement with the microcomputer.
- o It was ridiculous for the woman from Kurzweil not to have come earlier and had the machine set up. I never got to hear the machine and came wanting to know how it works/sounds.
- o Demonstration on the microcomputer, as well as the Kurzweil machine.
- o "hands on" workshops.
- o Additional technology which can be used with the learning disabled.
- o Negative factors/problems with the Kurzweil--other equipment that can be used.
- o The social implications of a growing population with learning disabilities e.g. participant mentioned 75% of inmates having possible disabilities; sociologically, how will people behave when feeling limited.
- o I would have liked to see the KRM in actual use.
- o It will be interesting to see how the Kurzweil reader can be developed and altered to better meet the needs of the LD student in the future.
- o CAI in English as a course rather than as a separate tutorial program.
- o I would have liked more time available for individual questions.
- o Some more geared to the title disabled students in occupational programs.
- o How to identify learning modes.
- o A listing of resources or referral to a directory of technological resources for the disabled.
- o Other equipment available--prices and demonstrations.
- o I would have liked to learn what technology can do for the student with auditory or perceptual problems.
- o Hands on workshops.
- o Demonstration and/or film of activities.
- o Estimates of the implications of the latest technology.
- o As the woman from Bronx CC said, papers with real evidence of learning disabled problems and their remediation with these equipments (sic)--but lunch's discussion helped this.

- o Concrete and specific examples (graded papers) that technology really helped a LD student.
- o Presentation and current usage of Kurzweil and problems which most colleges have found--i.e. low usage, high breakdown, high service costs.
- o I would like to see it work.
- o Actual demonstration of the Kurzweil.
- o Concrete examples of a situation (learning difficulty) and how the technology actual eliminated it or lessened it.
- o Actual demonstration.
- o Demonstration of how Kurzweil and Microcomputer works.

2a The workshop "Issues and Strategies for Modifying Programs, Curriculum and Materials for Learning Disabled College Students" was:

1	2	3	4	5
inadequate	fair	good	very good	excellent

Freq.	(1)	(5)	(19)	(15)	(9)
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Percentage of ratings 3 or higher = 88% (n=49).

2b. This workshop helped me better understand faculty concerns relating to programmatic and instructional modifications for learning disabled students.

1	2	3	4	5
to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent

Freq.	(2)	(6)	(17)	(15)	(9)
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Percentage of ratings 3 or higher = 84% (n=49).

2c. This workshop demonstrated how adaptive techniques and strategies can be used with learning disabled students in the classroom:

1	2	3	4	5
to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent

Freq.	(2)	(4)	(14)	(13)	(13)
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Percentage of ratings 3 or higher = 87% (n=46).

2d. List some useful ideas that emanated from the workshop.

- o Showed that adaptive teaching techniques for LD students are not difficult to incorporate into a class of both LD and non-disabled students. Techniques which work for LD are also beneficial for non-LD
- o The need to use a wide variety of modalities with LD students.
- o Emphasis on the diversity of LD and how to handle it.
- o Lack of knowledge of both teachers and administrators on the college level of LD students and their problems.
- o Need for faculty inservice.
- o The wide range of symptomologies.
- o It is essential to teach children and adults how to learn.
- o Faculty who are using adaptive techniques should train their own colleagues at their colleges.
- o Using other teaching modes.
- o Good teaching techniques are useful on all levels for all students..
- o Using faculty to teach faculty.
- o Techniques can be applied to all students.
- o Good concrete ideas.
- o We need to look at LD students as new cohorts with unique problems.
- o Demonstration or perhaps a case study beginning with identification of student.

2e. What additional information would you have liked?

- o Wider discussion of social concomitants of LD
- o Grants for developing proposals in this area. More teacher workshops.
- o More information on how instructors can teach the learning disabled.
- o How the LD student learns differently.
- o The material presented was too technical--a more general presentation was needed.
- o More techniques related to specific learning disabilities and how remediation is done.
- o More techniques in the area of communication skills.
- o Hands on training in using study skill techniques.

- o More faculty addressing additional subject areas.
- o A statement about causes of LD
- o We need to look at LD student as new cohort with unique problems.
- o Demonstration or perhaps a case study beginning with identification of student.
- o Presentations from more faculty who had LD students and how they adapted their methods.

3a. The workshop "Using a Support Group to Maximize Educational Achievement of Learning Disabled College Students" was:

	1	2	3	4	5
	inadequate	fair	good	very good	excellent
Freq.	(0)	(2)	(2)	(7)	(27)
Percentage of ratings <u>3</u> or higher = 95% (<u>n</u> =38).					

3b. This workshop helped me understand how an on-going support group comprised of learning disabled students affects learning.

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(1)	(0)	(9)	(6)	(19)
Percentage of ratings <u>3</u> or higher = 97% (<u>n</u> =35)					

3c. List some useful ideas that emanated from this workshop.

- o An excellent overview of the dynamics and personal processes of learning disabled students. The role of a "network" was a useful idea.
- o I never realized that an LD student might be an excellent writer and reader but lacking in less obvious areas.
- o That different types of disabilities are compensated for in different ways.
- o Value of a support group.
- o This was excellent. I never realized the variety of learning problems until I heard the students describe their experiences. This will be unforgettable.
- o The diversity of this disability. The fact that adaptive techniques don't work the same, in fact might be detrimental for some.
- o Relating Kubler-Ross's stages of mourning to individual's acceptance of their disabilities. The accounts by students was excellent—they alone made the day.
- o This workshop showed best the relationship of the emotional and learning problems of LD. The handout is exactly what I have been looking for.

- o The fact that LD students can reason analytically and have excellent verbal ability. Standard study skills might not work for this student.
- o Was excellent.
- o The best part of listening to students was learning about their respective successes as well as their failures.
- o The student input made this workshop. The handbook distributed was also good.
- o Need for I.E.P. for L.D.
- o You need to know the student's particular need before you can design the intervention.
- o The student presentations provide wonderful insights.
- o Use students to develop awareness by faculty.

3d. What additional information would you have liked?

- o The students did not address how the support group helped them as students.
- o How to form a support group, select students, determine agendas.
- o How to recruit students for groups & program.
- o Format and content of group discussions.

4. I would like to have help in: (check as many as apply)

- 19 selecting appropriate computer software for use with learning disabled students
- 14 acquiring basic computer literacy (e.g., operation of a computer, use of keyboard, hardware and software components of a computer system)
- 33 developing additional strategies for modifying programs, curriculum and materials for learning disabled college students
- 16 Organizing a self-help/support group of learning disabled students.

5. What additional information would you like to have about accommodating handicapped students in occupational programs and/or about instructional techniques for college staff?

- o The students from Hunter did more to advance my knowledge of LD than any so-called scholarly article, book or presentation, ever could. Their presentations stayed away from theoretical points and got to the practical matters. I feel I can now apply many of the methods they personally use in my own remedial reading and writing courses.
- o I think my college could profit from a sensitization session at the college--it would probably have to be "mandated" by Dept. chairpersons--so that faculty attend--It's an eye-opener for me as a counselor who has never knowingly had an LD student as a client.
- o Would like videos indicating adapting strategies not only for learning, but social skills needed to obtain and hold a job. Comment: Listening to the students detailing their disability was a fascinating eye-opener!
- o It is always a good idea to get people with the same concerns together. Thank you for organizing this conference.
- o Specific techniques, strategies and materials for Math on as many levels as possible. A diagnostic tool that any faculty member could use to identify L.D.
- o I would like more information about how a counselor can identify students' with learning disabilities. Also, more information about the basic nature of learning disabilities, especially the different types.
- o What occupations are most promising for LD students?
- o Counseling techniques/approaches for the learning disabled
- o Some innovative ways to stimulate faculty/staff to want to learn more about the LD student and helping him/her in the classroom.
- o The conference was first rate-but a bit too long.
- o The needs of the mentally ill student--e.g. Schizophrenic student--too often even the pupil personnel staff avoid the mentally ill or make remarks, e.g. He's crazy--weird--impossible to work with. They are handicapped and need to be considered "learning disabled." The definitions of LD seem to proudly separate the LD from the E.D. It's not justified.
- o Suggestions for future projects. Set up seminars at each institution of higher education where faculty are required to attend and learn about the needs of special needs students--handicapped students, etc. Students with problems should be included as well as experts. Please use audio visual materials to increase content and interest level. Please include the needs of the mentally ill and allow time for each participant to search his family tree for handicapped members. They are there. They just need to be acknowledged and accepted and helped.

- o I would like to have further information concerning the ways to become acquainted with the signs of a learning disability if a student has not declared himself to be disabled. I must add that the presentation of the students made the most impact on me. Not only regarding the need for recognizing the student who has a learning disability and arranging for modification of instruction, but also for support groups among students.
- o Finding resources for expanding programs. Career planning--selecting appropriate careers. Social problems--dating, etc. Marvelous conference--very helpful.
- o Suggestions for topics to be covered in future projects: alternative classroom testing methods; utilization of technology in content classroom adaptation; research in how disabled and nondisabled students benefit from classroom accommodations; programs to motivate faculty (appeal to self-interest) to develop and utilize classroom adaptations; developing teacher support groups.
- o Good conference.
- o It probably does not exist, but I would like to see some quantitative measures of the increased effectiveness in teaching LD students that results from using latest technology. Overall, the conference was highly informative and well worthwhile.
- o Tutoring for individuals in content areas. Faculty to develop a microprocessing composition course.
- o Suggestions for future projects. Developing college faculty awareness--in identification and classroom modification (strategies). Research to better understand the nature of LD problems among college students.
- o Suggested topics for future projects: strategies for accommodation in writing laboratory e.g. tutoring assistance to alleviate problems of insufficiency of funds, effective tutors (use of microcomputers/editing), technical training for faculty/staff.

CONFERENCE: Accommodating Sensory Impaired Students in Occupational Programs:
Instructional Strategies for College Staff

March 1, 1985

SUMMARY OF RATINGS AND COMMENTS

NOTE: Numbers in parentheses are frequency of ratings.

Project staff comments on evaluation data:

Participants found this conference very useful. Open-ended comments focused on the extent to which program participants became aware of the technological devices that could be used by sensory-impaired students in school, training, and work situations. Information and materials distributed at the conference were seen as useful for on-campus faculty training activities that could be carried out by conference participants. As with the previous conference, many participants wanted additional hands-on experiences with technologically oriented interventions as well as help in adapting their own curriculum for sensory impaired students.

- la. The workshop "Adapting the Classroom Environment to Meet the Needs of the Visually Impaired Student" was:

	1	2	3	4	5
	inadequate	fair	good	very good	excellent
Freq.	(1)	(1)	(21)	(12)	(9)
Percentage of ratings <u>3</u> or higher = 96% (n=44)					

- lb. This workshop helped me understand how computers and other technology can be used to compensate for deficits associated with visual impairments:

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(0)	(4)	(20)	(12)	(8)
Percentage of ratings <u>3</u> or higher = 91% (n=44)					

- lc. This workshop helped me become aware of other non-technological strategies for working with students that have little or no vision or are partially sighted.

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(2)	(7)	(18)	(13)	(5)
Percentage of ratings <u>3</u> or higher = 80% (n=44)					

Id. List some ideas that emanated from this workshop, that will be useful in your work with visually impaired students.

- o Information to share with instructors about B/VH students. The new uses of already available computer technology for B/VH students.
- o The variety of resources for visually impaired. I can act as referral source to major centers or people who can be of assistance.
- o Checklist of accommodations that I will give to every instructor who has a disabled student.
- o Very interesting concept to hook up Kurzweil w/computer. How to set up workshop--"How to survive in the Corporate World." Have Elizabeth Aldworth speak.
- o These students really need a lot more time to do things and need to be encouraged to ask for assistance.
- o Job site adaptations: self assertiveness, development of government grants, multiplication of available resources.
- o More campaigns for the hard of hearing and disabled students and persons could be launched throughout the city.
- o Additional information on uses of computers to assist the visually impaired.
- o The students were the best.
- o Realizing the need for the establishment of a peer support group.
- o Establishing support groups for college students.
- o Need for self-advocacy skills in disabled students.
- o Network for independence.
- o The existence of the Versa Braille, using Kurzweil to read to Apple to write Braille.
- o Need for teacher training.
- o Hardware and some software.
- o Provide seminars for educating professors about visually-impaired students.
- o Career development courses for visually-impaired students. Utilize note-takers.
- o Employment strategies and career development.
- o Devices.
- o Involvement of various academic and administrative levels in orientation workshops on students with specific disabilities.

- o The workshop has made me aware of the resources available in working with the visually impaired student.
- o Became aware of resources for visually impaired students. Encourage these students to be independent. Offer extra credit to sighted student for their assistance. Offer career courses and/or workshops for these students.
- o Speaking with the students to find out if they, in fact, know what I can do to help. The support groups discussed will be of great help.
- o The technology available to the visually impaired--was something I was not aware of.
- o Certain problems that visually impaired students face. It has made me more sensitive to the VI student.

1e. What additional information would you have liked?

- o Sharing/networking--on sensitizing faculty at large--not just the "special" ones who already are dedicated to helping handicapped. More information on what classroom teachers/professors can do to meet needs of students.
- o Really need specific examples and information for classroom strategies.
- o Not really familiar with field of visual impairment--so this was good introduction.
- o Actual demonstration of equipment or a video that would demonstrate such equipment as it was done in the afternoon session.
- o Organizations to contact.
- o A longer exposure on the computer aids to the blind.
- o I would have liked some additional information of adapting the science courses for the visually impaired.
- o More discussion with student/professor.
- o A discussion on the role and responsibility a visually-impaired student must assume to receive appropriate support services.
- o More time to work with equipment.
- o More equipment demonstrations. More time for individual workshops.
- o More time for teachers in charge to discuss their problems, present their problems.
- o Info on consultants and trainers.
- o Hands on use and or specific demonstration of how computer aids work.

- o Strategies for teaching in classroom. How to help sightless students to learn visual tasks--graphing, etc.
- o More extensive demonstration of technology.
- o More technical information on computer aided instruction and small group discussion on all topics.
- o More time for discussion--sharing strategies with other professors (both sessions not just visual).
- o How to use these devices (hands-on experience).
- o Demonstration with visually impaired students being taught to use equipment.
- o Where can instructors in colleges without the necessary resources avail themselves of the equipment.
- o How would you actually set things up in specific situations; for example, I'm a secretarial science instructor--what might I do in a typing class, etc.

2a. The workshop "Adapting the Classroom Environment to Meet the Needs of the Hearing-Impaired Student" was:

	1	2	3	4	5
	inadequate	fair	good	very good	excellent
Freq.	(0)	(3)	(11)	(22)	(9)
Percentage of ratings <u>3</u> or higher = 93% (<u>n</u> =45)					

2b. This workshop demonstrated how adaptive techniques and strategies can be used with hearing impaired students in the classroom:

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(0)	(1)	(8)	(24)	(10)
Percentage of ratings <u>3</u> or higher = 98% (<u>n</u> =43)					

2c. List some ideas that emanated from the workshop that will be useful in your work with hearing impaired students.

- o Explained delays and lower grades on placement tests.
- o Found Dianne Brackett's lecture--extremely helpful. Can apply lot of that info to working with our hearing imp. population.
- o The devices available.
- o Will have hearing impaired student research for systems.

- o Will use some of the techniques to use in faculty-development workshops.
- o Use FM, don't face blackboard, communicate with student.
- o Since I'm not a specialist in this area, I learned more about equipment available.
- o Students' experience were the best.
- o Use of interpreters and note-takers in the classroom setting.
- o Continue to use visual tools, perhaps the FM systems Hearing Aid.
- o The FM unit is something that might benefit my clients.
- o Use of hearing aids and FM system.
- o Need to re-educate faculty.
- o Identify speaker in classroom situation. Get closer, physically to person with hearing aid.
- o Peer support system.
- o More visual materials, encourage social interaction, overhead projector.
- o New idea--add hearing devices and use them within classroom--especially for those who are H.H.
- o Collected materials from NTID.

2d. What additional information would you have liked?

- o Sources/places to see demonstration of equipment and purchase list.
- o organizations to contact.
- o More strategies to solve/better deal with the difficulties that evolve in classroom situations.
- o How to sensitize the faculty to the needs and abilities of the hearing impaired.
- o The need for deaf individuals to develop and expand their oral communications skills in order to be more marketable.
- o What about the partially deaf, low vision student which are entering the college population as the Rubella population matures.
- o Identify speaker in classroom situation, get closer physically to person with hearing aid.
- o Peer-support system.

- o Demonstration of interpreters' skills, strategies.
 - o More technological information about the use of equipment, computer.
 - o I would like it to have been longer. I think you could have benefitted by having more deaf people talking about their experiences. That's always eye opening.
3. I would like to have help in: (numbers equal number of times items checked).(check as many as apply)
- 15 selecting appropriate computer software for use with visually impaired students
 - 10 selecting appropriate computer software for use with hearing impaired students
 - 24 developing additional strategies for modifying programs, curriculum and materials for visually impaired or hearing impaired college students
 - 10 organizing a self-help/support group of visually impaired or hearing impaired students.
4. Additional comments on the conference:
- o Next time leave out salesman as presenters--esp. Keenan. CASE could be a useful forum to allow exchange between organized support groups i.e. college-based tutoring programs and agency based tutoring, evaluations. What was the point of the live-history presentation--to include this in a professional conference is a disgrace and marred an otherwise excellent program!!! Specifically, the focus of helping/assisting/enabling sensorily limited, impaired in sensory intact environments which rely on senses being intact!
 - o Please have more conferences of this type.
 - o We should have more conferences related to this topic, they are very informative and they help a great deal in working with the visually and hearing impaired students.
 - o Replicate on all campuses!
 - o I would have enjoyed more information on Vocational Rehabilitation and Job Development for hearing impaired individuals (and the problems that they face.)
 - o Nicely done--need more control; re time.
 - o Well planned conference--really increased my sensitivity and awareness of the sensory impaired students' needs.
 - o I would like to know beforehand if a handicapped student is going to be in my class; this would be helpful to me so that I could prepare special materials or arrange for services.
 - o Good presentations--would have liked more in depth treatment.

- o Perhaps each impairment should have its own full day.
- o Excellent variety and presentations. Listening to students was very rewarding and helpful.
- o Well done!
- o Most informational; well planned.
- o A very good informative conference.
- o Too rushed.
- o Hearing impaired presenters feel superior to visually impaired.
- o I have learned a lot about the needs of the disabled, the experiences of the disabled students in schools and in their social life, allowed me to understand a little better their special needs in a classroom situation.
- o Very organized and well run.
- o Overall, I enjoyed the conference very much and gained some useful additional information. I particularly was impressed with the presentations of the students.
- o It might be helpful to have a conference for 504 coordinators to share problems, issues and solutions we have found.
- o Excellent choice of speakers and also the variety of topics within scope of this conference were well chosen.
- o Organization--great. Meeting others--excellent opportunity.
- o Obvious dedication of conference workers or those who prepared or ran the conference. Keep up the good work!

CONFERENCE: Accommodating Students with Orthopedic or Hidden Disabilities:
Instructional Strategies for College Staff

April 26, 1985

SUMMARY OF RATINGS AND COMMENTS

NOTE: Numbers in parentheses are frequency of ratings.

Project staff comments on evaluation data:

Comments by conference participants reflected an action agenda, with regard to using and or modifying computer equipment. Overall, many participants became aware for the first time of the extent to which hidden disabilities exist and how accommodations in this area are confusing for instructors because of the absence of observable problems. Home-based instruction, now limited to two CUNY campuses, sparked interest at the workshop as did the potential of home-based employment of the disabled.

la. The workshop "Making the Computer Accessible to Disabled College Students" was:

	1	2	3	4	5
	inadequate	fair	good	very good	excellent
Freq.	(0)	(2)	(3)	(6)	(6)
Percentage of ratings <u>3</u> or higher = 88%. (<u>n</u> =17)					

lb. This workshop helped me better understand how computers and other technology can be used to compensate for deficits associated with orthopedic disabilities.

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(0)	(0)	(2)	(12)	(3)
Percentage of ratings <u>3</u> or higher = 100%. (<u>n</u> =17)					

lc. List some ideas that emanated from this workshop that will be useful in your work with orthopedically impaired students.

- o Identified software and peripherals of great use to the disabled. Got ideas about making such equipment more readily available to disabled student.
- o Our Learning Centers will be equipped soon with computers and our wheelchair bound students will be beneficiaries of the information.
- o Raising the tables to accommodate wheelchair students and the great deal of hardware available for disabled students.

- o Modifications available for computers for physically disabled individuals.
- o I would like to outfit one of our lab computers to make it accessible to disabled students.
- o It will be helpful to know that there is a wide variety of technology for adopting computers for the disabled.
- o I will investigate more fully the resources available to this population.
- o The use of computers for the disabled and the software available.
- o I can think of applications for some devices for other than the physically disabled.

1d. What additional information would you have liked?

- o Wonderful display by Ms. Abbey--just too short and therefore too limited in scope. Need more input from computer areas in other schools as to specifics of how they've accommodated their disabled students (rooms, chairs, equipment set-up, personnel, etc.)
- o Some more "hands-on" experience.
- o More diverse information, i.e., information pertaining to computers other than Apple.
- o Further information from hidden disability counselors re: psycho-social counseling for these students.
- o What specific devices serve which population in more detailed fashion.
- o Include an instructor on the panel.
- o The home study program was excellent.
- o A large amount of the same.
- o The demonstration of adaptive devices went too quickly for the uninitiated.
- o Specific manner about which devices can be used for the variety of different hardware and software.
- o I find the new technology fascinating and awe-inspiring in terms of potential, but continue to be distressed by the "glitches."

2a The workshop "Psychological and Instructional Accommodations for Students with Hidden Disabilities" was:

	1	2	3	4	5
	inadequate	fair	good	very good	excellent
Freq.	(0)	(0)	(7)	(10)	(2)
Percentage of ratings <u>3</u> or higher = 100%. (<u>n</u> =19)					

- 2b. This workshop demonstrated the effects a hidden disability might have on learning and offered strategies that can be used in the classroom:

	1	2	3	4	5
	to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent
Freq.	(0)	(3)	(1)	(13)	(2)
Percentage of ratings <u>3</u> or higher = 100% (<u>n</u> =19)					

- 2c. List some ideas that emanated from the workshop that will be useful in your work with students who have hidden disabilities.

- o It's prepared me for the eventuality of dealing with such students; up to this point, all of our disabled students have had obvious handicaps.
- o The homebound instruction is not available in my college but will now be discussed.
- o Extended descriptions of the nature of the illnesses were good as a foundation.
- o The many things that instructors should and should not do with epileptic students in classrooms.
- o Level of disclosure depends on individual, advocate for modifications.
- o Clearer idea of nature of disability and effect on learning.
- o Teacher/peer awareness.
- o Will explore possibility of home based instruction for students.
- o Existence of CUNY Committee on Disabled, Existence of Homebound Program.

- 2d. What additional information would you have liked?

- o More input on how to handle uncooperative and/or insensitive faculty--in many instances, it isn't the student who's the problem.
- o More information on costs of homebased instruction.
- o More specific information with respect to the kind of jobs that are available--names of companies that have employed the disabled on a sustaining basis.
- o I would have preferred more focus on strategies teachers might use to help students, and more help with ideas for students on how to survive long periods of illness and still keep up with work, etc.

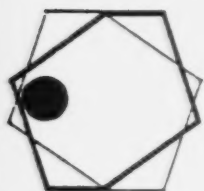
- o Students' feeling about living with their disabilities e.g., attending college.
- o More students and instructor input.
- o Statistical information on rate of progress of students with hidden disabilities.
- o On other hidden disabilities.
- o Hands on use of adaptive hardware.
- o Seminar/workshops for various departments i.e., direct instruction to faculty on how they can teach/how to cope with the disabled students.
- o More information on strategies for working with these students as a counselor in a college setting.
- o More information relative to encouraging faculty/staff to make reasonable accommodation; practical accommodation techniques; alternate assignments.
- o Specific strategies for identifying hidden disabilities. strategies for counseling students who fear stigma and deny problem, administration's view of problems.

3 I would like to have help in: (numbers equal number of times item checked).

- 8 selecting appropriate computer software for use with orthopedically impaired students
- 13 developing additional strategies for modifying programs, curriculum and materials for college students who have orthopedic or hidden disabilities.
- 6 organizing a self-help/support group of students who have hidden disabilities

4. Additional comments on the conference:

- o This was a very pleasant and informative conference.
- o Overall great.
- o Homebound program: Good presentation.



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EVALUATION

To assist the Institute in evaluating this conference, we would like you to complete this form anonymously. Please circle your response.

1a. The workshop "Using Technology with Learning Disabled College Students" was:

1	2	3	4	5
inadequate	fair	good	very good	excellent

1b. This workshop helped me understand how technology can provide a compensatory learning modality for students who have reading and/or writing difficulties:

1	2	3	4	5
to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent

1c. This workshop helped me become aware of research possibilities regarding the use of equipment (e.g., Kurzweil, microcomputers, etc.) with print-handicapped students.

1	2	3	4	5
to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent

1d. List some useful ideas that emanated from this workshop, including possible research projects.

1e. What additional information would you have liked?

2a. The workshop "Issues and Strategies for Modifying Programs, Curriculum and Materials for Learning Disabled College Students" was:

1	2	3	4	5
inadequate	fair	good	very good	excellent

2b. This workshop helped me better understand faculty concerns relating to programmatic and instructional modifications for learning disabled students.

1	2	3	4	5
to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent

- 2c. This workshop demonstrated how adaptive techniques and strategies can be used with learning disabled students in the classroom:

1	2	3	4	5
to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent

- 2d. List some useful ideas that emanated from the workshop.

- 2d. What additional information would you have liked?

-
- 3a. The workshop "Using a Support Group to Maximize Educational Achievement of Learning Disabled College Students" was:

1	2	3	4	5
inadequate	fair	good	very good	excellent

- 3b. This workshop helped me understand how an on-going support group comprised of learning disabled students affects learning.

1	2	3	4	5
to a very small extent	to a small extent	to a moderate extent	to a large extent	to a very large extent

- 3c. List some useful ideas that emanated from this workshop.

- 3d. What additional information would you have liked?

-
4. I would like to have help in: (check as many as apply)

_____ selecting appropriate computer software for use with learning disabled students

_____ acquiring basic computer literacy (e.g., operation of a computer, use of keyboard, hardware and software components of a computer system)

_____ developing additional strategies for modifying programs, curriculum and materials for learning disabled college students

_____ Organizing a self-help/support group of learning disabled students.

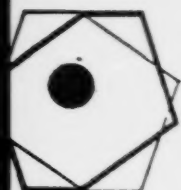
_____ Other _____

5. What additional information would you like to have about accommodating handicapped students in occupational programs and/or about instructional techniques for college staff?

6. Please check the type of institution you represent and indicate your job title:

☐ two year college ☐ four year college ☐ agency ☐ other

Job Title: _____



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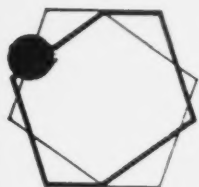
AGENDA

**ACCOMMODATING LEARNING DISABLED STUDENTS IN OCCUPATIONAL PROGRAMS:
INSTRUCTIONAL STRATEGIES FOR COLLEGE STAFF**

FRIDAY, November 30, 1984
CUNY GRADUATE CENTER, 33 West 42nd Street, Third Floor Studio, NY

- 8:30 - 9:30 REGISTRATION AND COFFEE
- 9:30 - 9:40 GREETINGS AND PROJECT OVERVIEW
- 9:40 - 10:10 NEW OVR REGULATIONS ON LEARNING DISABILITIES
- Dr. Richard Hehir, OVR, Albany, N.Y.
- 10:10 - 11:20 USING TECHNOLOGY WITH LEARNING DISABLED COLLEGE STUDENTS*
- Estelle Schneider, Assistant Professor, Department of Communication Skills, Karen Pearl, Counselor, Colette Wagner, Librarian and a student from LaGuardia Community College will discuss how microcomputers and Kurzweil Reader are being used to provide a compensatory learning modality for students who have reading and/or writing difficulties.
 - Mary Harrington, Kurzweil Computer Corporation, will discuss research possibilities regarding use of their equipment with print handicapped students.
- 11:20 - 11:30 INTERMISSION
- 11:30 - 12:45 ISSUES AND STRATEGIES FOR MODIFYING PROGRAMS, CURRICULUM AND MATERIALS FOR LEARNING DISABLED COLLEGE STUDENTS*
- Helen Gerardi, CUNY Office of Academic Affairs, will report on faculty concerns relating to programmatic and instructional modifications.
 - Stanley Steiner, Associate Professor, Department of Dental Hygiene, New York City Technical College, will describe adaptive techniques used with learning disabled students in the classroom.
- 12:45 - 2:00 LUNCH - THIRD FLOOR STUDIO
- 2:00 - 3:15 USING A SUPPORT GROUP TO MAXIMIZE EDUCATIONAL ACHIEVEMENT OF LEARNING DISABLED COLLEGE STUDENTS*
- Kate Garnett, Associate Professor, Department of Special Education, and Sandra LaPorta, Counselor/Coordinator for Disabled Students, Hunter College, will describe and demonstrate how an on-going support group comprised of learning disabled students impacts upon learning.

*Related materials will be distributed.



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**ACCOMMODATING SENSORY IMPAIRED STUDENTS IN OCCUPATIONAL PROGRAMS:
INSTRUCTIONAL STRATEGIES FOR COLLEGE STAFF**

Friday, March 1, 1985

CUNY Graduate Center, 33 West 42nd Street, New York - Room 207

AGENDA OUTLINE

- 8:30-9:15 REGISTRATION AND COFFEE
- 9:15-9:20 GREETINGS AND PROJECT OVERVIEW
- 9:20-11:30 ADAPTING THE CLASSROOM ENVIRONMENT TO MEET THE NEEDS OF THE
VISUALLY IMPAIRED STUDENT -- ISSUES AND STRATEGIES*

"Adapting the Microcomputer and Other Equipment for Visually Impaired Students"

- o Frank Irzyk, Media Specialist, New York Institute for Education of the Blind
- o Bob Keenan, Telesensory Systems, Inc., Northeastern Regional Manager, Blindness Products

"Problem Solving Session: Adapting Materials for Low Vision Students in the Classroom"

"Support Systems That Helped During My College Experience"

- o Moderator: Mary LoCricchio, Assistant Instructor, Baruch College
- o Carmen Gomez, student, Queensborough Community College
- o Eileen Fleming, student, Baruch College

"Job Restructuring and Job Site Adaptations for Visually Impaired Employees"

- o Elizabeth Aldsworth, Market Research, General Foods, Inc., White Plains, N.Y.

- 11:30-1:00 LUNCH (Dining Commons - 18th Floor)

- 1:00-3:00 ADAPTING THE CLASSROOM ENVIRONMENT TO MEET THE NEEDS OF THE
HEARING IMPAIRED STUDENT -- ISSUES AND STRATEGIES*

"Effects of Hearing Impairment and What a College Can Do"

- o Rosemary Saur, Chairperson, Department of Science and Engineering Support, National Technical Institute for the Deaf, (NTID), Rochester Institute of Technology, (RIT), Rochester, N.Y.

"FM Systems, Hearing Aids and Other Assistive Devices"

- o Diane Brackett, Director of Communication Therapies, N.Y. League for the Hard of Hearing

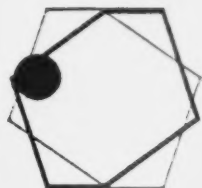
"Retrospective and Current Experiences in College"

- o Sheryl Eisenberg, Training Consultant, Job Path
- o Larry Medwetsky, student, CUNY Graduate Center

"Job Restructuring and Job Site Accommodations for Employees with Impaired Hearing"

- o Andy Lazorisak, Associate Analyst, Security Administration, IBM, Franklin Lakes, NJ
- o Loretta Lembo, Personnel Department, IBM, Franklin Lakes, NJ

* Relevant materials will be distributed



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AGENDA

**ACCOMMODATING STUDENTS WITH ORTHOPEDIC OR HIDDEN DISABILITIES:
INSTRUCTIONAL STRATEGIES FOR COLLEGE STAFF**

Friday, April 26, 1985
Hunter College, 68th Street and Lexington Avenue, N.Y.
West Building - Room 217 Lounge

-
- 8:30 - 9:15 REGISTRATION AND COFFEE
- 9:15 - 9:30 GREETINGS AND PROJECT OVERVIEW
- 9:30 - 10:45 MAKING THE COMPUTER ACCESSIBLE TO DISABLED COLLEGE STUDENTS*

- Victor Margolis, Coordinator of Disabled Student Services, Nassau Community College, Garden City, N.Y.
- Christine Abbey, Educational Products Manager, Computerability Corporation, Pine Brook, New Jersey

This workshop will discuss and demonstrate aids that will make it possible for students who have manual dexterity disabilities to use a computer.

- 10:45 - 12:00 PSYCHOLOGICAL AND INSTRUCTIONAL ACCOMMODATIONS FOR STUDENTS WITH HIDDEN DISABILITIES*

- Kathleen Quinn, Career Counseling Director, Epilepsy Institute, NY
- Dick Campbell, Director, and Beryl Murray, Assistant Director, Sickle Cell Anemia Foundation, N.Y.
- Gregory Thomas, student, Baruch College: What helped; what didn't

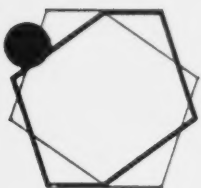
Panelists will discuss the effects a hidden disability might have on learning and how a student with a hidden disability can use services constructively and avoid becoming dependent.

- 12:00 - 1:00 HOME BASED EMPLOYMENT AS AN ACCOMMODATION TO HIDDEN AND ORTHOPEDIC DISABILITIES*

- Merrill Parra, Director, Homebound Program, Queensborough Community College
- Carol D'Agostino, Student and home-based employee, Electronic Services Unlimited
- Maureen Nolan, home-based employee, N.Y. Power Authority
- Lorraine Murtha, Administrative specialist for First Exec. V.P., N.Y. Power Authority, White Plains, NY

Positive aspects of changing and flexible work patterns will be explored.

Lunch may be purchased in the Faculty Cafeteria - 8th Floor, West Building



The Graduate School and University Center
of the City University of New York

Center for Advanced Study in Education
Institute for Research and Development in Occupational Education
Graduate Center: 33 West 42 Street, New York, N.Y. 10036
212 221-3895/96

PRE-MEETING PREPARATION

**ACCOMMODATING HANDICAPPED STUDENTS IN OCCUPATIONAL PROGRAMS:
INSTRUCTIONAL STRATEGIES FOR COLLEGE STAFF**

November 30, 1984 Conference

How do I recognize if I have a learning disabled student in my class?
If diagnosed, what can be done?

How much of my teaching style do I have to change?

What types of interventions and modifications are needed for learning disabled students? What have you found to be successful?

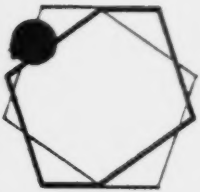
What equipment is available to help a learning disabled student?

Can a learning disabled student study a foreign language?

What tutoring is available?

What other support services are available? How do I refer a student to a counselor?

How do I teach disabled and non-disabled students in the same class?



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PRE-MEETING PREPARATION

ACCOMMODATING SENSORY IMPAIRED STUDENTS IN OCCUPATIONAL PROGRAMS:
INSTRUCTIONAL STRATEGIES FOR COLLEGE STAFF
March 1, 1985 Conference

Before attending the conference, would you please give some thought to the following concerns related to accommodating students who have a visual or hearing impairment. We believe this "pre-meeting preparation" will enrich our discussions.

RE: Visual Impairment

How can sighted instructors use the computer to communicate with non-sighted students?

What is electronic test-taking? What factors would facilitate or block using such a system?

How do I teach sighted and non-sighted students in the same classroom?

Where do I get materials enlarged, Brailled or converted into raised line form?

What support services are available?

RE: Hearing Impairment

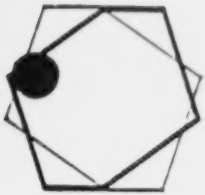
To what extent might hearing impairment interfere with learning?

What misinterpretations might an instructor make regarding a linguistic or social deficit resulting from a hearing impairment?

What variety of assistive devices might hearing impaired students be using in a classroom?

What steps need to be taken to develop and implement a peer notetaker or interpreter program?

As a classroom instructor, what steps would you take after becoming aware that a hearing impaired student seems to be having difficulty with class lectures?



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PRE-MEETING PREPARATION

**ACCOMMODATING STUDENTS WHO ARE ORTHOPEDICALLY IMPAIRED
OR HAVE A HIDDEN DISABILITY:
INSTRUCTIONAL STRATEGIES FOR COLLEGE STAFF
April 26, 1985 Conference**

Before attending the conference, would you please give some thought to the following concerns related to accommodating students who have an orthopedic or hidden disability. We believe this "pre-meeting preparation" will enrich our discussion.

RE: Orthopedic Disability

What adaptations can be made to a computer to make it accessible to an orthopedically impaired student?

What modifications might be needed in classrooms or technical science laboratories for orthopedically impaired students?

Where money is needed to purchase or modify equipment, what options are available?

What accommodations are needed for a mobility impaired student to participate in fieldwork or off campus internship?

RE: Hidden Disability

As an instructor, what signals should I be aware of to identify students who may have a hidden disability?

Once a student has been identified, what steps should an instructor take?

To what extent might a hidden disability and its treatment interfere with learning?

What does an instructor need to know about emergency medical procedures for hidden disabilities (e.g., epileptic attacks, diabetic shock, etc.)?

General

What is the responsibility of the instructor to a student who because of his or her disability is late, excessively absent, or performing poorly?

In what ways should an instructor take into account a student's disability when evaluating a student's performance?

CONFERENCE PARTICIPANTS — TWO YEAR COLLEGES AND AGENCIES

Adler, Rebecca
Bailey, Maureen
Barnette, Roberta
Blaine, Jo

Borras, Mildred
Brown, Kathleen
Buchman, Irene
Buissereth, Albert
Bushelon, Jean
Campone, Francine
Caro, Rose
Cias, Donna
Copeland, Debra
Corn, Juliana
Cossio, Maria
Culbert, Mary Ruth
Davis, Catherine
Dempsey, Beth
DuBick, Michael
Earnest, John
Fagin, Phil
Finder, Barbara
Forsythe, Farris
Gardner, Arlyn
Geier, Jamie

Genovese, Virginia
Georgiades, Angie
Goldsmith, Ellen
Goldwasser, Janet
Green, Gail
Gross, Nancy
Henick, Sylvia
Hughey, Lucinda
Johnson, Elmira
Karakassis, Kathleen
Kastin, Joan
Khan, Fern
Klapper, Ollie
Kole, Barbara
Kranis, Jo Ann
Lane, Lois
LaPalme, Terry
Lazorisak, Carol
Lesnick, Henry

Mid-Manhattan Library
Federation of the Handicapped
Bronx Community College
New York State Commission for the Blind and
Visually Handicapped
LaGuardia Community College
Rockland Community College
Fashion Institute of Technology
New York City Technical College
Rockland Community College
New York City Technical College
LaGuardia Community College
Fashion Institute of Technology
LaGuardia Community College
Queensborough Community College
LaGuardia Community College
College of Staten Island
Rockland Community College
Human Resources Center
Federation of the Handicapped
Nassau Community College
New York City Technical College
Nassau Community College
John Jay College
Foundation for Children with Learning Disabilities
New York State Commission for the Blind and
Visually Handicapped
New York City Technical College
SUNY Farmingdale
New York City Technical College
LaGuardia Community College
LaGuardia Community College
LaGuardia Community College
OVR
Hostos Community College
Suffolk County Community College
LaGuardia Community College
Queensborough Community College
LaGuardia Community College
Kingsborough Community College
Borough of Manhattan Community College
LaGuardia Community College
Queensborough Community College
LaGuardia Community College
LaGuardia Community College
Hostos Community College

Liddle, Irene
Litke, Barbara

Little, John
Little, Leon
Lucas, Ursula
Margolis, Victor
Meyerowitz, Judith
Mischianti, JoAnn
Monge, Elizabeth
Murphy, Anne
Murtha, Lorraine
Nelke, Ann
Orange, Taur
Palmer, Joyce
Papier, Sarah
Parke, Lois
Parra, Merrill
Phoenix, Herbert
Power, Marian
Ramos, Linda
Rosen, Gerry
Rosenthal, Maxine
Rosman, Elliot
Ruiz, Ida
Sadownick, Barbara
Schirmer, Elaine
Schine, Shirley
Schneider, Estelle
Shapiro, Meryl
Shenkman, Harriet
Sherman, Paul
Shimsky, Janice
Siegel, Annette
Silver, Sandy
Smiley, Earline
Sortino, Kathy
Spergel, Ellen
Stimola, Michael
Taylor, Ismay
Thomas, Susan Drew
Thomas, Gregory
Tillman, Carol
Triston, Ann
Tritell, Anita
Venditti, Margaret
Waxman, Leona
Webb, Frances
Youdin, Myron
Zemek, Marjorie

New York City Technical College
New York State Commission for the Blind and
Visually Handicapped
Borough of Manhattan Community College
New York City Technical College
Bronx Community College
Nassau Community College
New York City Technical College
New York City Technical College
Hostos Community College
LaGuardia Community College
New York Power Authority
College of Staten Island
Fashion Institute of Technology
New York City Technical College
Queensborough Community College
New York City Technical College
Queensborough Community College
Medgar Evers College
Suffolk County Community College
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Borough of Manhattan Community College
Queensborough Community College
Hostos Community College
Kingsborough Community College
Queensborough Community College
John Jay College
LaGuardia Community College
Queensborough Community College
Bronx Community College
New York City Technical College
Nassau Community College
LaGuardia Community College
SUNY Farmingdale
Medgar Evers College
Dutchess Community College
Rockland Community College
Hostos Community College
Bronx Community College
Parents Campaign for Handicapped
Sickle Cell Foundation
Westchester Community College
Queensborough Community College
SUNY Farmingdale
College of Staten Island
Kingsborough Community College
Hostos Community College
Suffolk County Community College
Rockland Community College

List of Materials Distributed to Conference Participants

Learning Disabilities Conference -- November 30, 1984

Learning Disabled Adults in Postsecondary Education. HEATH Resource Center, One DuPont Circle, N.W., Suite 670, Washington, DC 20036-1193

The Kurzweil Reading Machine and the Learning Disabled. Carolyn Buell Kidder, Learning Disabilities Specialist, Weymouth, Mass. Public Schools

Designing/Implementing a Faculty Workshop on Classroom Accommodation. Jane E. Jarrow, Ohio State University

Academic Access for Learning Disabled Students. Mike Lopez and Myrtle Clyde-Snyder, Central Washington University

Computers and the Special Education Classroom. Thomas R. Sicoli, 404 Darlington Drive, West Chester, PA 19380

Computers Can Play a Dual Role for Disabled Individuals. Gregg Vanderheiden, Director, Trace Research and Development Center, Madison, Wisconsin 53706, BYTE Publications, September, 1982

Machine Aids Dyslexics as Well as Blind Readers. Illinois Institute of Technology, Chicago, Illinois 60616, Alumni News, Vol. II, NO.3, Jan/Feb 1984

Learning Disabled: A New Awareness. The New York Times Education Section. Fall Survey, Nov. 11, 1984

Logo: An Approach to Educating Disabled Children. Sylvia Weir, Susan Jo Russell and Jose A. Valente. BYTE Publications, September 1982

Course Modification Strategies that Really Work. Fred L. Wilson, Rochester Institute of Technology

Services and Programs for Students with Disabilities at the City University of New York

Dispelling the Myths: College Students and Learning Disabilities. Katherine Garnett and Sandra LaPorta, Hunter College of the City University of New York, 1984.

Clearinghouse Helps Firms Accommodate Special Needs of Handicapped Employees. Linda M. Watkins, Wall Street Journal, November 6, 1984

Suggestions for Assisting Learning Disabled Students. Bernard Horowitz, SUNY Agricultural and Technical College at Cobleskill. Memo to Faculty, March 9, 1979.

Learning Problems of the Secondary and Junior College Learning Disabled Student. Suggested Remedies. Michael S. Kahn, Rollins College, Winter Park, FL 32789. Journal of Learning Disabilities, 1980, 13 (8)

Accommodating Sensory Impaired Students in Occupational Programs: Instructional Strategies for College Staff -- March 1, 1985

Services and Programs for Students with Disabilities at the City University of New York

High-Tech Help for the Disabled. Venture, February 1985

Clever Design Can Assist Handicapped. By Peter H. Lewis, New York Times

Hearing Impaired Students in Postsecondary Education. Higher Education and the Handicapped Resource Center -- A National Clearinghouse on Postsecondary Education for Disabled People. One Dupont Circle, N.W., Washington, D.C. 20036

Paperless Braille Microcomputer. Andris Zingis, Futura Computer Products Incorporated

The Talking Program: The Professional Alternative. A review by Terry Kepner, Terry Kepner, P.O. Box 481, Peterborough, NH 03458, May 31, 1984

Hints to Help the Hearing Impaired Student. New York League for the Hard of Hearing, 71 West 23 Street, New York, N.Y. 10010-4162

Hearing Losses. Excerpted from: Personal Computers & Special Needs, 1984, Frank G. Bowe, Published by: SYBEX, Inc. 2344 Sixth Street, Berkeley, CA 94710

Vision Impairments. Excerpted from: Personal Computers & Special Needs, By: Frank G. Bowe, Published by: SYBEX, Inc. 2344 Sixth Street, Berkeley, CA 94710

FM Systems for People with Impaired Hearing. Diane Brackett, Ph.D., Jane R. Madell, Ph.D. New York League for the Hard of Hearing Consumers Guide, 1983

Resource Information, Manual for Hearing Impaired Person. New York League for the Hard of Hearing, 71 West 23 Street, New York, N.Y. 10010

The Peer Notetaker, A Guide for High School and Junior High School Students. Aron Teel, M.A., New York League for the Hard of Hearing Educational Notes

Overview of the NTID Tutor/Notetaker Program. T. Alan Hurwitz, National Technical Institute for the Deaf. From Proceedings of the Third National Conference Sponsored by the Association on Handicapped Student Service Programs in Postsecondary Education, May 18-21, 1980

The Tutor/Notetaker as a Support Service for Deaf Students; Managing a T/N Support Program. Zerbe, National Technical Institute for the Deaf

The Tutor/Notetaker as a Support Service for Deaf Students: Viewpoint of a Classroom Teacher. Fred. L. Wilson, Rochester Institute of Technology

The Tutor/Notetaker as a Support Service for Deaf Students: The Training Program. Jimmie Joan Wilson, National Technical Institute for the Deaf

Inservice Training: Considerations for Hearing Impaired Students. Jo Anne Simon, Gallaudet College

Accommodating Students Who Are Orthopedically Impaired Or Have A Hidden Disability: Instructional Strategies for College Staff -- April 26, 1985

Issues and Questions in Making the Computer Accessible to Disabled College Students. Victor H. Margolis, Nassau Community College, Garden City, New York, April 21, 1985

I'm Handicapped! How Can I Use Computers? James B. Abbey, J.A. Preston Corporation, 60 Page Road, Clifton, New Jersey 07012, 1983.

Technology and Special Education: A Resource Guide. M. Nell Barley and Sharon L. Raimondi. Teaching Exceptional Children. Summer 1984.

1984 Fact Sheet of Diabetes. American Diabetes Association. New York Diabetes Affiliate, Inc. 55 West 39th Street, New York, N.Y. 10018

A Word to Employers. American Diabetes Association, Two Park Avenue, New York, N.Y. 10016

Insulin Reaction Information. Becton Dickinson Consumer Products, Rochelle Park, New Jersey 07662

Evaluation, April 26, 1985. Graduate School and University Center of the City University of New York, 33 West 42nd Street, New York, N.Y. 10036

Epilepsy, Medical and Seizure Related Issues. Ira Brody, The Epilepsy Institute, 67 Irving Place, New York, N.Y. 10003

The New York Journal of Epilepsy. A Publication of the Epilepsy Institute, 67 Irving Place, New York, N.Y. 10003. December 1984

Notice of Workshops. The Epilepsy Institute, 67 Irving Place, New York, N.Y. 10003

A Child with Sickle Cell Anemia in Your Class (A Guide for Teachers). Prepared by, Roland B. Scott, M.D. and Althea D. Kessler, MD. Center for Sickle Cell Disease, Howard University College of Medicine, 2121 Georgia Avenue, N.W. Washington, D.C. 20059, 1977.

Facts about Sickle Cell Anemia. The Sickle Cell Disease Foundation of Greater New York, 209 West 125th Street, New York, N.Y. 10027

High Blood Pressure and Women. National Kidney Foundation of New York/New Jersey, Inc. 432 Park Avenue South, New York, N.Y. 10016

Six Warning Signs of Kidney Disease. The Kidney Foundation of New York, 432 Park Avenue, New York, N.Y. 10016

What Everyone Should Know About Kidneys and Kidney Diseases. National Kidney Foundation, Inc. 2 Park Avenue, New York, N.Y. 10016

Service Today -- Hope for Tomorrow. New York City Chapter National Multiple Sclerosis Society, Support Services 55 West 44th Street, New York, N.Y. 10036

Telecommunication, Transcription Typing Training and Employment Program for The Homebound Disabled. Federation of the Handicapped. 211 West 14th Street, New York, N.Y. 10011

Computers and Communications, Improving the Employability of Persons With Handicaps,. Harvey M. Deitel, The Journal for Vocational Special Needs Education. Spring 1984

The Role of Microcomputers in the Vocational Development of Special Populations. Ron Linari, Guest Editor. The Journal for Vocational Special Needs Education. Spring 1984.

Measuring Student Progress in the Classroom, A Guide To Testing and Evaluating Progress of Students with Disabilities. Higher Education and the Handicapped Resource Center -- a national clearinghouse on postsecondary education for disabled people. One Dupont Circle, N.W., Washington, D.C. June 1982.

Accommodations in the Classroom. Sourcebook. Disabled Student Services. Two-Year College Development Center, State University of New York at Albany, Albany, N.Y. 12222. December 1982.

Teaching Strategies and Adaptations - Mobility Impaired. Sourcebook. Disabled Student Services. Two-Year College Development Center, State University of New York at Albany, Albany, N.Y. 12222. December 1982.

Hidden Disabilities. Cornelius, D. Inside Out: Attitudes Toward People With Hidden Disabilities. Washington D.C.: RRRI-ALLB Publications, 1980, pp. 2-13.

Working at Home, A Choice Location. By Lou Dolinar

Special Reports. Homebased Work and the Homebound Disabled: Creating Your Own Opportunity. Merrill D. Parra, Director, and Marcia Keizs, Assistant Director, External Education Program for the Homebound, Queensborough Community College, Homebound Program, Bayside, N.Y. 11364.

Working at Home. Carol D'Agostino, Electronic Services Unlimited, 142 W. 24th Street New York, N.Y. 10011, 1984.

Project Homebound, Utilization of the Homebound Disabled in Off-Site Word Processing. Presented by James G. Raney, Jr., National Academy of Science, Washington D.C. November 9-10, 1983.

Telecommuters Say There's No Workplace Like Home. Katya Goncharoff, N.Y. Times, March 24, 1985

The Corporate Decision Making Process: Interviewing, Job Restructuring, Adaptation and Socialization. Robert S. Menchel, Xerox Social Leave Program for the American Association for the Advancement of Science.